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Address

MENTAL ALIENATION IN WOMEN AND ABDOMINO-PELVIC DISEASE

CHAIRMAN'S ADDRESS IN SECTION ON OBSTETRICS AND DISEASES OF WOMEN AT THE SIXTIETH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, 1909

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DETROIT

At the opening of this Section for 1909 I desire to express to you my sincere appreciation of the honor which you have done me in continued confidence during the past years. It comes to few men to have served continuously a section in every capacity within that Section's gift, and now in relinquishing active office after so long a period, I feel that my being here is due rather to your kindly tolerance than to anything that I may have done to merit it.

This Section, from the small and inconspicuous gathering which annually took place before the reorganization of the Association, has now become a factor in the world's work, and its transactions present a volume on special subjects in scientific value second to none. The papers and discussions emanating from this Section have greatly enriched the literature of gynecology and obstetrics, and it only remains for us to maintain the high standard which has been reached in our deliberations.

At the turn in the lane we sometimes pause to look back along the way that we have come, observe the windings of the path, the roughness of the ground and the hard places that have been crossed, and, perhaps, with Stevenson, we "draw back and shade our eyes before the picture dawns on us in full breadth and outline."

After more than a quarter century of active interest in the nervous and mental disorders of women associated with pelvic disease, I may, perhaps, be permitted at this time again to refer briefly to a subject regarding which I have spoken much, and review some of the things historical and some which have passed under observation during the period mentioned, and for which I may claim, at least in some degree, responsibility.

In his book on "Mind and Body" Alexander Bain states that "the entire bodily system, though in varying degree, is in intimate alliance with mental function. To confine our study to the nervous substance would be to misrepresent the connection, and the knowledge of that substance, however complete, would not suffice for the solution of the problem." But this idea was almost as old as the hills when Bain wrote the wo[illegible] quoted, and was familiar centuries before the Cl[illegible]ra, for Hippocrates and his followers unders[illegible]

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called "sympathetic insanities," while at a nearer time the man out of the tombs exemplified, if he did not put into words, a fact now familiar to all, the relation of somatic conditions to the delusion of the insane.

Acting on the material facts which medicine had separated from the dim uncertainties of philosophy and metaphysics, the ancients appear to have cared for and respected their mentally deranged with a greater solicitude and consideration than was accorded the insane by subsequent generations, for during the Middle Ages, dark ages indeed for the unfortunates who bore the blotted brain, the subject of mental disorder was looked on as a sore on the fair face of humanity and a shame and disgrace to both family and state. Cruelty and brutality obtained to extreme degree, and the mentally sick, like Shimshon of old, was often the butt of the jester and forced to make sport for his hardened keepers and a degraded populace.

Such was the status of the insane up to the latter part of the eighteenth century, when Pinel, most courageous and enlightened of his time, struck off the fetters from the inmates of Bicêtre (1792) and inaugurated a new era in the treatment of mental disorders. From this time on, increasing interest in the welfare of the insane developed, the study of psychiatry received an impetus and a knowledge of forms and the classification of mental diseases became more exact and thorough.

From the present-time point of view, it seems strange that, with all the philanthropic efforts directed toward the insane and the renewed interest created in the study of the morphology of mental diseases, the influence of somatic conditions should have been so almost completely ignored. The psychiatrist of that day seemed to have forgotten that, as Cowles remarks, "In the study of mental diseases it is important to find their true place in relation to other pathologic conditions," and that "as a physician he must treat the whole body," for "psychiatry belongs to general medicine, and mental disease, like bodily disease, is not an entity nor an agency, but the result of normal function acting under abnormal conditions," etc.

It was not, however, until the diseases of women had been separated from medicine as a specialty that interest in their possible relationship to insanity began to be manifested. And it must here be remarked that the inception of this interest did not arise with the alienist who, busied with his large material, was seeking for the cause and origin of mental disorder, but with the gynecologist who noted the effect on the nervous system and mind of puberty, the menopause, and childbirth in certain individuals and observed the mental breakdowns resulting from ill-conducted lives, to which was added the continued irritation of abdomino-pelvic disease. He it was who drew attention to the possibilities of cause and effect in this class of cases.

In 1854, fired by an enthusiasm begot of experience with pelvic disease in the sane, Dr. Horatio B. Storer sought to carry his investigations forward in instances of unbalanced mind, and in a resolution offered before the American Medical Association, effected the appointment of a special committee to look into the relationship between insanity and the disorders peculiar to women. Unfortunately for all concerned, this proposal met with cold reception from those whom it would be supposed would be mostly directly interested; asylum superintendents became at once jealous of their so-called rights and the invasion of the gynecologist into the realm of psychiatry and refused to cooperate, so that, after an existence of several years, the committee was finally discharged, having accomplished nothing. A number of years then elapsed before a second attempt was made to study this important subject.

Somewhere about 1878, at the request of the superintendent, Dr. A. J. C. Skene undertook some gynecologic work in the Kings County Asylum at Flatbush, N. Y. The work accomplished was of the highest order, and it is to be regretted that it could not have been longer continued until more definite results had accrued from the observations made and our knowledge along this line thus augmented.

More than twenty years ago, when I began my work at the Eastern Michigan Asylum, no systematic efforts were being made to ameliorate the condition of female patients in our institutions for the insane suffering from abdomino-pelvic disease, or to place on a sound basis the knowledge of the influence which such disorders might exert on the causation and progress of mental troubles. Advancement in general medicine had by this time paved the way to a more enlightened order of things so that, although there was still opposition and criticism, the path was made easier and the way was more direct.

To-day, as the result of these tentative beginnings, there is hardly an asylum of size in this country where either a consulting gynecologist or a member of the staff, set apart for this duty, may not be found.

And there is one particular reason for this, a reason which I have persistently urged, and to which both laity and the profession have now become alive. If the state obligates itself to the care of the insane in the way of feeding, clothing, protecting and housing, it can not do these things and refuse its unfortunate charges relief from physical suffering; it is morally bound to care for bodily ailments while seeking the alleviation of mental distress.

But the question may be asked: If amelioration of bodily suffering has become a part of the asylum's function, what has been achieved thereby as regards the mental condition of the patient, and what are the end-results in the matter of mental cure? The answer may be found in the reports of asylums where this work is most actively carried on, and in the literature of insanity relating to this subject.

Summarized, we may recount a few of the conspicuous results that have obtained during the past two decades. We have added to our knowledge regarding the relationship existing between mind and body; we know more at present than was formerly known, that, while mind may exert a remarkable influence over the functions of the various internal organs, the converse is also true, morbid state of any viscus often aggravating the existing mental malady, or even lead to the ultimate downfall of the greatest intellect. Head, in his Goulstonian Lectures for 1901, has shown that physical pain from visceral disease is productive of decided psychic manifestations, and I and others have demonstrated that relief from suffering brings about a mental [illegible]tion often otherwise unattainable.

The frequency with which abdomino-pelvic disorders exist in insane women has been determined and has led to a more careful and systematic examination of the female patients in our institutions for those conditions which the mental malady may overshadow in its manifestations. My own investigations have shown that about 81 per cent. of insane women suffer from some form of pelvic or abdominal disorder[illegible] these statistics do not differ materially f[illegible] of most other observers, Hobbs and Isabella [illegible] alone reporting so large a percentage as 93.

The frequency with which post-operative insanity of a more or less permanent form is likely to occur following surgical intervention in, particularly, diseased abdominal and pelvic viscera, and the relationship and frequency of abnormal mentation to pregnancy, eclampsia and the puerperium has been shown. Postoperative insanity is of rare occurrence and satisfactory statistics can be obtained only from asylum records. From a careful investigation Dewey concludes that the ratio of cases of mental alienation from this cause going to public institutions is less than 1 per 1,000, and my own observations quite accord with this. Such statistics, however, are misleading and do not represent the actual number of cases of insanity resulting from surgical operations, since many instances are undoubtedly of an ephemeral nature, lasting but a few days or weeks, and, being cared for at home or in a general hospital, are not made public. Bearing on this point, the investigations of Sears published some years ago are of interest. The preponderance of mental disorders following operations appears to lie with women, since mental breakdown is more likely to result from operations on the pelvic organs than on other parts of the body, the eye alone excepted. Excluding the surgery of the sexual organs, women do not appear to be more liable to insanity than do men. Dewey and others direct attention to the fact that the mental condition of the patient prior to operation is not sufficiently taken into consideration, and that in many instances insanity is either actually present or the patient it at the border line before the surgical procedure is undertaken. As regards insanity following eclampsia, my investigations published in 1895 indicate that, for this country at least, it is probably such an infrequent sequel that eclampsia hardly deserves consideration as an etiologic factor. Of 1,271 insane patients, the puerperal condition, aside from eclampsia, was ascribed as the existing cause of the mental disorder in 108 instances. According to Kraepelin, childbed is responsible for the insanity of 6.8 per cent. of all women admitted to our institutions, while Peterson says that in about 10 per cent. of insane women the mental disturbance has its origin at the epoch of reproduction. In this connection Hobbs has pointed out that in the majority of these mental states septic infection, immediate or remote, is the responsible agent.

It has been more clearly shown that the hallucinations and delusions of the insane are not always the figment of a disordered brain but are frequently dependent on intra-abdominal or pelvic lesions. In 1896 I pointed out, in a series of illustrative cases, that these mental phenomena are often the expression of somatic peripheral irritation. Hallucinations from such causes may [illegible]velop in the sane, as witness a case reported by [illegible] which the removal of two apparently [illegible]ls relieved the patient of a fancied foul breath. This was undetectable by others, but, in spite of absolutely healthy organs and a normal mentality, was the cause of much mental distress to the patient. Head found that hallucinations of vision, hearing and smell may appear in phthisis, heart disease and aortic aneurism. My observations go to show that delusions may develop from external or visible bodily conditions, from easily detected visceral disorders, and from obscure abdominal and pelvic states. The delusions of micromania may often have foundation in some such perversion of [illegible] sensory impression, the erroneous judgment exc[illegible]eral adhesion, a tumor or ovarian irritation, may give rise to the impression that the intestines have been removed or are absolutely closed up, as in a case cited by Frederick Peterson. "It is further demonstrated," says Stoddart, "that all these mental symptoms arise in association with severe prolonged pain resulting from disease of the viscera referred to the body wall," and again, "they do not occur in the absence of pain." Further investigation may show that still more of these manifestations are really based on physical causes.

Finally, as to the end-results and the curability of insanity through operative measures: It has always been a popular notion, fostered no doubt by indiscreet and thoughtless observations on the part of the profession, that insanity in women is most frequently the direct result of a diseased condition or perverted function of the organs of generation, and hence, it has been believed, that the restoration of these parts to a normal state, either by repair of defects or the removal of pathologic structures, would lead to renewed mental health. To those who have had the largest opportunity to study these questions, however, experience has shown that this is not altogether true. While, as has been pointed out, abdominal and pelvic disease is found to be present in a large percentage of insane women, it is possible that the proportion is no larger than obtains among the sane. The latter, however, may be for years the subjects of great suffering, discomfort or distress without the local disorder producing the slightest effect on the action of the mental machinery. It is too generally forgotten by those who make extraordinary claims as to the curability of insanity through the removal of the particular local flaw, that in the insane the mental malady has, in the majority of instances, an unstable nervous organization as its substructure. It has been put down that the proportion is about 1 to 300, this varying with races and countries (Peterson). In the mentally diseased the frequency rôle of heredity, including "hereditary equivalents," is variously estimated at from 30 to 90 per cent., and even in the functional psychoses it may amount to as high as 70 per cent. (Krauss).

If we also take cognizance of the disastrous effects of alcoholism, syphilis, tuberculosis and the strenuosities of modern life, we have an alarming array of etiologic influences constantly threatening mental integrity. In the unstable individual slight causes may, perhaps, be quite sufficient to overcome the mental equilibrium, but in those with a clean record something more than the abdominal or pelvic disease must account for the psychic overthrow. After persistent and patient investigation of cases in private, hospital and asylum practice, and the study of the reports of others, I am still unconvinced that local disorders, exclusive of septic or toxic conditions, ever result *per se* in mental dethronement. Given an ordinarily strong and healthy woman and subject her to unusual and prolonged mental strain, anxiety and loss of sleep, together with bodily over-fatigue and stress, or to excesses which undermine the general health and constitution, and a dormant defect, which previously produced no symptoms, may make itself manifest and mental breakdown result from the combination of processes. Hence the uterine, ovarian or other disease, through its newly acquired power of pain and its influence on the nutrition and functions of the body, becomes an important factor in producing mental depression, which, in turn, may ultimately lead to insanity. Of itself the pelvic or other morbidity is but a phase and would have no effect had not the preceding physical and psychic conditions rendered the patient incapable of resisting its action. Such cases are particularly amenable to relief and cure through proper moral and physical treatment, supplemented by the surgical removal or correction of the local lesion. This also applies to many instances of puerperal insanity the result of infection, inflammation or physical prostration from undue demands made upon the organism unequal to the strain.

Again: "It is not unusual to find," says Mabon, "that insane patients, while convalescing from surgical operations, at times give evidence of mental improvement, going on, in some instances, to complete recovery, and this in instances in which the latter could hardly be expected. Sometimes this outcome may be due to the shock of the operation; in other cases the mental effect which the operation itself produces in the subject is to be credited with the mental improvement—the explanation being that we substitute a healthy for an unhealthy mental introspection; while in still others the increased personal attention received after the operation, together with the changed environment, forms the medium through which mental improvement results."

But though we are sure of a small percentage of mental cures following surgical operations on the insane, I still continue to maintain that we have no right, either as surgeons or humanitarians, to place the positive relief from physical suffering alongside the uncertain relief of the mental malady, but that whatever may be the outcome as regards the psychic disorder, relief and cure of somatic suffering is imperative, and this should be our constant thought and purpose.

But whether a cure of the insanity is effected or not, it is certain that improvement in the metal condition is *likely to supervene from the removal of the focus of irritation*; the subject is rendered more comfortable and therefore becomes more tractable, and through this is often changed from an untidy, refractory patient to a clean, industrious and orderly individual.

In the foregoing remarks I have attempted to touch on some of the conspicuous results that have followed from the investigation of insanity in its relation to the abdomino-pelvic disorders in women during the past twenty years. In the discussion I have credited the alienist's present point of view rather than that of the gynecologist, lest I be accused of bias; and whatever has been quoted has been set down largely in the psychiatrist's own words. If the gynecologist was once thought to be unwisely urgent and filled with over-zeal, the results of his good and persistent endeavors have won their reward and are today reflected in the changed attitude of students of mental disease. And surely such a showing can not be disregarded or attributed to over-enthusiasm on the part of those engaged in the work, for it can hardly be asserted that the alienist and the surgeon, together striving toward one end in harmonious effort, can both be deceived in so carefully wrought out and important a matter.

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Original Articles

THE CHOICE OF OPERATIONS FOR RETRODISPLACEMENTS OF THE UTERUS [*]

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MINNEAPOLIS

In presenting this subject for consideration, I am not unmindful of the fact that much has been written and said on it, and that many of the members of this Section have worked out operations of their own to correct a retrodisplacement of the uterus. Where there is such a diversity of opinion, one must conclude that no one operation gives universal satisfaction and that the factors entering into the cause of retrodisplacements are not generally understood.

It is with the hope of bringing out a thorough discussion of this subject that I present this paper. This question will be settled aright in time as other surgical questions have been in the past, and the proper operations selected.

In the first place we must acknowledge—although many physicians of Europe and America dispute these points—that a woman who has a simple retrodisplacement of the uterus may suffer because of the displacement, and that a retrodisplacement predisposes the patient to disease of the uterus or adnexa. When a displacement is associated with disease of the tubes or ovaries nearly all agree that something should be done to rectify the trouble.

POSITION OF THE UTERUS

The uterus is partly suspended and partly held in position by ligaments. Why its normal position is maintained is not universally understood.

The uterus that causes no discomfort to the patient is usually anteverted, slightly flexed, and placed at right angles to the vagina. The fundus is supported by a soft cushion, the bladder, and held forward by the restraining round ligaments and their peritoneal coverings, also by the uterosacral ligaments, which prevent prolapse. The broad ligaments prevent permanent lateral displacements. The intra-abdominal pressure and intestines assist in holding the fundus forward and the counter-pressure of the perineal body makes the normal position possible.

The position varies with the condition of the bladder and rectum. The organ is freely movable and its position can be temporarily changed by manipulation. It moves with each respiratory act. With the broad ligaments it divides the pelvis into two unequal portions, viz., a shallow anterior part containing the bladder and a deep posterior portion containing coils of intestines.

CAUSES OF RETRODISPLACEMENTS

In the normal state all the supports of the uterus act in harmony during local or general muscular exercise. In diseases this synchronous action is disturbed. In many individuals a retrodisplacement is coincident with a general disturbance of the equilibrium of the abdominal and pelvic organs, and under such circumstances it increases the possibility of a visceroptosis. A general visceroptosis, on the other hand, aggravates the displacement.

The factors which disturb the harmonious action and arrangement of the uterine supports may be enumerated as follows:

1. A laceration of the cervix or disease resulting therefrom.
2. An endometritis or metritis.
3. Increased weight of the uterus.
4. Cervical constriction, resulting in congestion.
5. Tumors of the uterus.
6. Senile or small uterus.
7. Diseased tubes.
8. Diseased ovaries.
9. Congenital weakness of supports.
10. Lacerated perineum.
11. Inflammatory diseases of the pelvic organs or peritoneum.
12. Increased intra-abdominal tension.
13. Relaxed abdominal muscles.
14. Prolapsed intestines or other viscera.
15. Constriction at the waist-line.
16. Constipation and straining.
17. Jars or traumatism, weakening the supports or disturbing the equilibrium.
18. Temporary and habitual partial displacements from bladder, overdistention, etc.
19. Overdistention of rectum and pressure upon the temporarily displaced fundus.
20. Adhesions pulling the uterus out of place.
21. Improper exercise, poor food and lack of hygienic surroundings.

When a uterus becomes temporarily retrodisplaced—and this condition occurs at short intervals—the supports weaken. The forces which in the normal state help to hold the uterus forward, viz., the intra-abdominal tension and pressure of the intestines, now are factors in perpetuating the displacement. The ligaments stretch more and the fundus is pushed into the deep posterior pit and a pronounced retroversion and flexion often occurs.

Could we but recognize the incipient stages of this progressing condition and know every factor entering into the trouble, much could be done to avoid a permanent displacement.

SYMPTOMS

Occasionally unmarried women especially do not know to what their symptoms are due until a physician makes a diagnosis of a retrodisplacement.

It is frequently the case that the displacement alone is not the cause of the trouble, but the associated disease of the tubes or ovaries. Many young women have retrodisplacements and develop disease of the tubes or ovaries later because of this displacement.

The symptoms are dependent on the degree of retrodisplacement, the character of the infection, if any, and the associated conditions, also the age and social status of the patient.

That simple retrodisplacements do cause trouble I am quite certain, or at least I will state that in many instances in which the retrodisplacement alone has been corrected the symptoms have disappeared. Symptoms are modified by any condition which may disturb the harmonious relationship of the organs or assist in producing the retrodisplacement, as enumerated above.

In a retrodisplacement some of the special complaints which women make are:

1. Backache.
2. Bearing-down pains.
3. Tenderness of uterus.
4. Constipation.
5. Dysuria.
6. Dysmenorrhea.
7. Menorrhagia.
8. Metrorrhagia.
9. Neurasthenia.
10. Sterility.
11. Leucorrhea.

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[*] Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

If cases of anteflexion do cause trouble at times, why should not a retrodisplacement in which there is the possibility of the uterus falling so much lower in comparison? The uterus being below the normal circulatory level, the venous return flow is impeded. Congestion, endometritis and metritis follow as natural consequences.

In any disease of the ovaries, tubes, or in appendicitis with peritonitis a retrodisplaced uterus greatly augments the suffering. The fundus and adnexa become congested and are crowded as a mass into the bottom or apex of the pit, pressing on and adhering to one another. A loop of the intestines is often intimately associated with this mass. The destruction of tissue is then greater and functions of the organs are much interfered with.

Many an old woman will give a history of displacement of the uterus from which she had suffered from girlhood. It had troubled her at menstruation, at defecation and at micturition, the peace of mind and body being so disturbed as to make life unbearable, and the condition ended in greater disturbances of bladder and bowel, with complete uterine prolapse. It had been the bane of the woman's life and did not even disappear at the "change of life," as often predicted, but followed her during her declining years. Countless office treatments have been given and numerous instruments of torture have been employed to overcome troublesome retrodisplacements, with little benefit, and often much harm, so there is a crying need for a sure and certain cure by a safe and sane method.

OPERATIVE TREATMENT OF RETRODISPLACEMENTS

In considering the surgical treatment for retrodisplacements it is necessary to understand all the factors entering into the maintenance of the normal position, and also to recognize what one or more conditions present may have a causative relation to the misplaced organ.

The success of an operation for the replacement of the uterus will depend largely on the interpretation of these factors and the attention given them by the individual operator. No operation will prove its real worth or give the desired relief should a general relaxed condition of the abdominal muscles with visceroptosis or a lacerated perineum go unheeded, or if any other pelvic or abdominal lesion exerting any influence on the position of the uterus remain untreated.

All sorts of operations have been performed in the past for the cure of retrodisplacements, many without regard for the future comforts of the patient or for the proper functions of the pelvic organs. The greater proportion of them looked all right at the time of the operation, but statistics and facts have shown that many have been failures. A few have stood the test of time, but only when properly selected and employed, with due reference to all other associated conditions.

The operation of ventrofixation and suspension, as introduced in the United States by Howard Kelly, was once quite popular and is to-day performed by a number of operators. It is true of this operation, as well as of any other, that when performed improperly and by incompetent men bad results are often to be expected. This operation has given a great many women comfort and ease. On the other hand, it has resulted in much harm and unnecessary suffering for others.

When properly performed on women past the menopause in whom there is a call for a rapid operation and for the suspension of the organ for retrodisplacement and prolapse, the results will be quite satisfactory. Also, in women who have the tubes or ovaries removed, and if a septic condition exists, at the time, there is less danger of complications in simply stitching the uterus to the peritoneum. Other excuses for its employment might exist in small, round ligaments, or in cases in which the uterus is to be held forward temporarily after an operation for appendicitis, fibroid, salpingectomy, or cysts of ovaries.

I myself have seldom selected this operation, because of the fact that there are more desirable methods of holding the uterus up. By this procedure the uterus is held in a fixed unnatural position and by an unnatural ligament. It seems like a makeshift operation. It is at variance with the principles governing the normal position of the uterus. It causes disturbances during pregnancy and makes labor difficult at times. It favors adhesions of the bowels and invites obstruction by the central ligamentous band.

Alexander's operation is not a very popular one today because of the fact that failures have been numerous and the operation has been improperly applied or performed. The round ligaments, especially the proximal half, are sufficiently strong to act as good supports when there is not a constant strain placed on them.

Any operation which manufactures or secures good supports for the uterus will not be ultimately successful if there is a constant strain on these supports. Failure will result as the tissues will stretch; therefore it is necessary to bring about the normal relationship of the uterus and surrounding parts, utilizing all the normal supports for the purpose and distributing the intra-abdominal pressure in a way to favor the maintenance of that normal position, at the same time correcting any associated disease acting as a causative factor. At one time this operation promised to be the panacea for women with retrodisplacements. There is no question as regards its efficacy in certain cases and it is a scientific and logical operation to perform in cases in which no disease exists within the abdomen or pelvis that requires a laparotomy.

In the past the enthusiastic advocates of this operation employed it in all cases, even going so far as to open up back of the uterus to separate adhesions due to diseased tubes and ovaries, packing the space and shortening the round ligaments extraperitoneally. The absolute failure to relieve the symptoms in all such cases and in many others caused the operation to fall into disuse. I have in a number of instances enlarged the opening to remove a diseased appendix or to resect a tube or ovary where no adhesions existed with good results. I believe it is best to draw the peritoneum up through the opening and close off the sac from the peritoneal cavity, as it makes a better support to include the peritoneum, especially the anterior fold.

The Webster operation finds a great many advocates. I have employed it in selected cases. It has the same objections as any other operation which does not permit the use of the strongest portion of the ligamentous tissue. It also produces a considerable constriction of the body of the uterus by the back-folding, clamping method of the ligaments. I am not sure but that much interference with pregnancy will be found to follow this operation in the future. It also introduces an extra suture line for possible complications. It is of advantage where a sustaining force is required for the ovaries and tubes, and, especially in cases where a raw surface posterior to the uterus exists, it protects this surface from possible adhesions.

Dr Coffey[1] of Portland, Ore., in a well illustrated article published October, 1908, describes an operation of his own for retrodisplacements. It consists in folding the round ligaments downward in front of and lateral to the fundus and refolding them up to the horn of the uterus, making a tuck in the broad ligament over these folds. He claims perfect results. It is a rational operation in certain cases.

The additional time consumed in the operation and the fact that the weakest portion of the round ligaments remain as the supports, the largest and strongest portions being used up, the additional amount of traumatism and suture line left within the tissues and abdomen, would naturally favor adhesions between these areas and the bowel. In septic cases there may be an additional risk of infection and general adhesions. Theoretically it would interfere with the natural enlargement of the uterus during pregnancy also, as there remain two folds of the ligament and one of the peritoneum to prevent the natural enlargement; pain or miscarriages might possibly result.

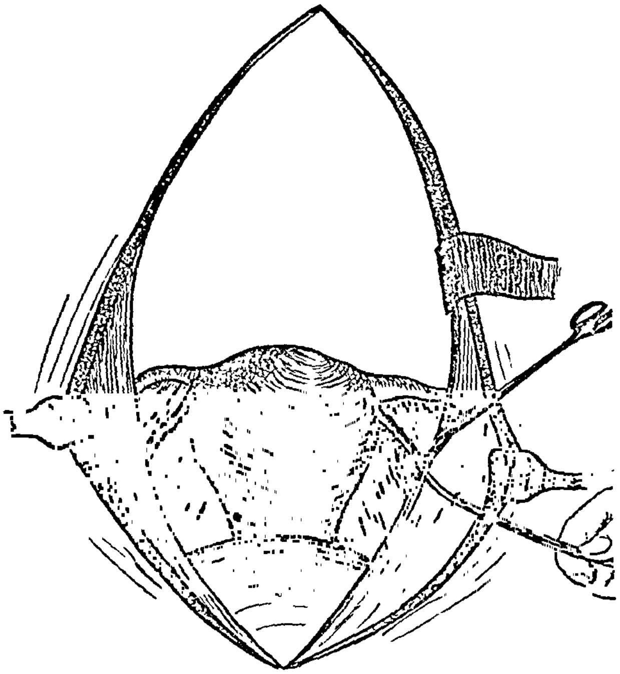

Fig. 1.—First step of modified Gilliam operation; forceps dragging round ligament through fascia opposite internal abdominal ring.

There are certain well-defined cases of lengthening of the uterosacral ligaments, as when there is some prolapse of the uterus, in which a shortening of these structures favors a more speedy return to health and lessens the possibility of prolapse.

The ligaments can be shortened from above or below; I believe best from above, as we can explore the abdomen and pelvic contents at the same time.

These ligaments should be shortened in certain cases where any other operation is performed for a retrodisplacement to insure good results if they are weak.

Any operation which folds the round ligaments on themselves within the pelvis, as in the Mann operation, does not offer the same support for the uterus, as it may be very heavy and partly deformed, flexed or bent on itself. Relapses may be frequent; the weak end of the ligaments are not strengthened; in fact, the additional constant restrain put on them by shortening may weaken the external thin ends.

I would offer the additional criticism on the Mann operation that there is, as in similar operations, the exposure of a suture line within the abdomen which may provoke adhesions. The same objections could be offered to the Goffe operation.

The operation of fixing the round ligaments and covering to the parietal peritoneum near the internal abdominal ring is a much more successful operation than many, as it allows a broad approximation and, if the loose distal portion of the ligament is tacked up to the abdominal wall there is an elevation of the pelvic peritoneum as well. It is not employed as often as it should be. I have been pleased with it in special cases. I believe it is far superior to the operations which leave the weak external end for support or in which an extra and unnatural ligament is created. The operation can be done through the median incision and quickly, but furnishes a chance for adhesions along the suture line. The operation of vaginal fixation as employed by Müller has not appealed to me, as it makes too radical a change in the position of the uterus and in young individuals would certainly not be indicated.

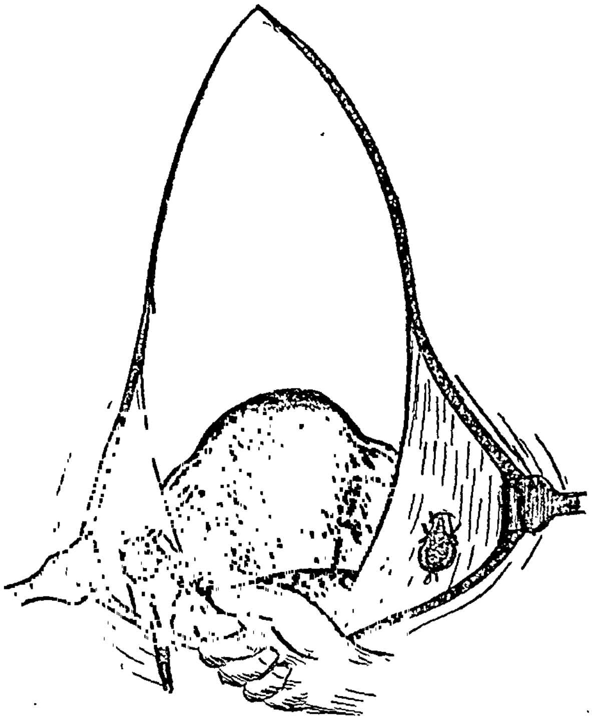

Fig. 2.—Second step of modified Gilliam operation; sutures being placed and ligaments fastened fan-shaped on opposite sides to fascia of external oblique.

Ferguson was one of the first operators (1899) to recognize the importance of correcting the disease of the adnexa and explore the abdomen for other lesions before correcting the retrodisplacement of the uterus. His operation was a step in the right direction, but has been replaced by the Gilliam operation or its modifications to-day. The typical Gilliam operation as first planned by its originator made too direct a pull on the uterus and left an unguarded depression between the normal and artificial exit of the ligaments inviting intestinal obstruction.

The modification which I have at last worked out consists in a dissection of the skin back to a point opposite the internal abdominal ring, passing a curved forceps through the fascia at this point between the folds of the broad ligament to within an inch and a half of the horn of the uterus, catching the ligament, which, together with the peritoneal covering, is brought out on the abdominal wall (Fig. 1), spread on the fascia in fan shape and anchored by three or four interrupted chromic catgut sutures (Fig. 2).

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[1] Coffey, R. C.: Principles on Which the Success of Surgical Treatment of Retrodisplacements of the Uterus Depends, Surg. Gynec. and Obst., October, 1908.

The anterior fold of the peritoneum can be pulled out to any extent, making any tension desired. In young women I am in the habit of making a transverse curved skin incision at the border of the pubic hair line and a longitudinal incision through the underlying tissue.

I am always careful to observe the condition of all the organs within the abdomen and pelvis and to correct any abnormal condition possible at the time. A lacerated cervix, or perineum or cystocele must necessarily be overcome if present, usually after the abdominal work.

The after-care of these cases is important. The general visceroptosis may be corrected by a proper long straight-front corset; the intra-abdominal tension by correcting the diet and regulating the bowels, treating a menorrhagia or metrorrhagia by rest and medication; and the inflamed or congested cervix by hot and astringent douches.

When all the associated or interdependent diseases and symptoms are thus carefully managed the results are all that could be desired.

CONCLUSIONS

1. Retrodisplacements of the uterus often cause much discomfort.
2. The anatomic arrangement of the pelvic tissue invites a retrodisplacement which causes more discomfort than other forms of displacement.
3. The round ligaments and their coverings act as restraining bands, lessening the possibility of permanent retrodisplacement.
4. The harmonious action of all the supports is essential to the uterus for its normal position.
5. When the round ligaments become elongated by frequent repeated retrodisplacements the intra-abdominal force is misapplied and the displacement becomes permanent.
6. The operation which interferes with the laws governing the normally placed uterus is not to be advocated.
7. The operation which produces unnecessary intra-abdominal traumatism should not be chosen in the ordinary case.
8. Operations which could possibly interfere with the enlargement of the uterus during labor should be used in selected cases only.
9. Operations which leave an additional suture line within the abdomen may cause subsequent trouble.
10. Operations which do not give as strong a support as possible consistent with the normal functions of the uterus may result in failure in some cases.
11. The operation which utilizes the normal ligaments with little or no traumatism is less troublesome and more scientific.

The advantages of the modified Gilliam operation as I perform it are the following:

1. It employs only normal tissue for support.
2. The direction of the pull for that support is in a natural line.
3. It eliminates the weak portion of the ligaments in Nature's plan for the normal position.
4. It does not interfere with normal pregnancy or the uterine functions.
5. No additional suture line is present within the abdomen.
6. No traumatism to the pelvic tissue is produced and consequently adhesions do not follow.
7. It puts the uterus at right angles to the vagina and it elevates and tightens the broad ligaments and lifts up the ovaries.
8. It does not interfere with bowel or bladder functions.
9. It takes the strain off the uterosacral ligaments and favors their return to normal tone.
10. The ligaments are tightened sufficiently to prevent the temporary retrodisplacement; consequently the intra-abdominal pressure is properly distributed.
11. It allows the operator to investigate thoroughly the pelvic and abdominal organs.
12. When the harmonious action of all the uterine supports is restored this operation gives positive and permanent results.

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ABSTRACT OF DISCUSSION

Dr. C. W. Barrett, Chicago: The question of treatment of retrouterine displacement resolves itself, not so much into the treatment of retrodisplacement as into the treatment of *retrodisplacement of the uterus and its complications*. In 1881, Dr. Alexander gave us the operation of shortening the round ligament, laying great stress on the external shortening of the ligament. A few years later, Olshausen, Kelly and others gave us the abdominal operation, dealing with the pathology and doing ventrosuspension. Ever since that time we have been trying to devise an operation that would give the advantages of the one without the disadvantages of the other, and it is only within the last few years that we have had an operation that practically covers that question. In any operation for retrodisplacement there are certain definite points of advantage which the operation should give us, and it is better to deal with principles when we may rather than with technic. The advantages which any operation must have at the present are: First, safety. We are dealing with a condition that does not cause death, and the operation must be safe. Second, simplicity. The operation must be simple because we must combine it with much other operating. Third, it must allow inspection of conditions within the abdomen. Alexander laid great stress on the fact that his operation was an external one; but for an operation to stand the test of time there must be an opportunity for the most careful inspection and correction of conditions in the abdomen, and the best part of the normal ligaments must be employed to hold the uterus forward. We must also deal with the ligament in a way that will leave it correctly placed, not running transperitoneally, but leaving the abdomen at the proper place, the internal ring, if that is possible. All these operations which have these advantages will stand what Goldspohn calls the double test of pregnancy; that is, they will allow pregnancy to progress to delivery without interfering with the success of the operation.

Those operations dealing with the best part of round ligaments may be divided into two classes: Those which get the ligament within the abdomen where it is easy to find, where it does not take up time, and those which find the ligament outside the abdomen. The latter necessitate a tedious dissection, and it is always doubtful about finding the ligament. After six years' experience with what I call the intramural transplantation of the round ligaments—that is, getting the ligament within the abdomen, taking it out through the internal ring—I have found that it stands the double test of pregnancy, that it does not interfere in any way with the pregnancy and that the pregnancy does not interfere with the holding of the uterus. It has been performed in women who were pregnant, and in whom it was necessary to open the abdomen for an incarceration of the pregnant uterus. Such an operation carries the ligaments out of the abdomen at the right place, the internal ring, and uses the strongest part of the ligament for holding the uterus and makes an anatomically and physiologically perfect operation for holding the uterus forward and allows the surgeon to do anything else necessary within the abdomen at the same time.

Dr. J. Wesley Bovée, Washington: Dr. Barrett has given us the proper principles to be followed in the treatment of these displacements, but he has given one operation for all. I hold, and I am not alone in this contention, that there is no one operation that is applicable in all cases. The principles of the proper supports of the uterus have not been satisfactorily worked out to many of us, and certainly the operations for the relief of deformities or defects in these supports have not been satisfactory. Whatever is needed to be done will depend on the condition that is present. I think shortening the round ligament in many instances will be sufficient. But there are so many other conditions that have to be considered; for instance, the defective attachment of the ligaments to the lower pole of the uterus which hold the cervix near to the outlet of the vagina, accompanied with abnormally long uterosacral ligaments. When uterosacral ligaments are attached so high to the cervix that they do not have sufficient leverage to hold it in the hollow of the sacrum no operation on the round ligaments will be of any lasting benefit. In one case I did ventrofixation of the uterus. Eight months later this patient entered Dr. Fry's service in another hospital and Edebohls operated by raising the uterus, appendages and vagina by sutures. The uterus was still firmly attached to the abdominal wall and the cervix eight inches away from that was protruding through the vulva, showing that the fundus might be fastened to the abdominal wall and yet procidentia be present. We see so many cases of procidentia of the uterus in which none of these ligament operations will suffice. Then, again, attention is attracted to the necessity of support from below and looking out for defects in the anterior vaginal wall; so that this field, when details are considered, is an exceedingly large one. I do not think that in any paper or in any number of days of discussion we are very much closer to an absolute determination of what ought to be done, except to find out that no one thing does, and no two things will answer, and that any gynecologic surgeon who depends on one; two or three operations for the correction of retrodisplacement of the uterus will find out sooner or later that he will have to enlarge his list of procedures.

Dr. H. J. Boldt, New York City: I feel that Dr. Bovée has struck the keynote when he said that no one operation is a panacea for retrodisplacements. It must be remembered that the Alexander operation was devised for patients who had a retrodisplacement with the uterus freely movable and with no disease of the adnexa. It is not proposed to cure a patient with procidentia by shortening the ligaments, as devised by Alexander. When the uterus is freely movable and there is no adnexal disease, if the operation is properly done, invariably good results follow. But we must remember that, in that class of cases, the greater number of patients will get along without any operation, a mechanical support alone being sufficient. In that other and larger class of patients with complications, such as diseased adnexa or adhesions of the uterus to the pelvic floor, the method of procedure will differ with the individual experience of the operator. I believe that in women well past the childbearing period no operation will equal ventrofixation of the uterus. But it should never be done on any woman unless she is past the childbearing period. The Gilliam operation or the one suggested by Dr. Benjamin I believe will answer in women likely to bear children.

Dr. R. B. Hall, Cincinnati: I agree that there is no one operation that should be used exclusively for retrodisplacement of the uterus. I believe that many conditions exist in which the operation should be varied. It is exceedingly rare, even after the childbearing period, that ventrofixation of the uterus should be done at all. My objection to the operation is the great danger of intestinal incarceration and intestinal obstruction. If we could gather all the cases of intestinal obstruction that have occurred after ventrofixation there would be a large number on record. I appreciate how one dislikes to report cases of intestinal obstruction coming on six months or a year or two years or longer after fixation of the uterus. I contend that with the many operations from which we may select, we owe it to our patients and to ourselves to choose a method which will not carry with it the possibility of intestinal obstruction.

Dr. H. O. Marcy, Boston: In my studies of inguinal hernia I find deformity in the construction of the inguinal canal in almost all the instances in which there is weakening of the lateral ligaments. As a consequence, it has been said as a basic principle that we should restore, so far as possible, everything to its normal pattern. The whole secret of cure of inguinal hernia is the normal reconstruction of the parts. Many factors must come into the problem, and it would be easy to write a small volume on this interesting subject. In restoring the weaker portion of the ligaments as referred to and fixing it beneath the peritoneum, we are at the same time reconstructing the weakened inguinal canal. In my later experience I open the abdomen and have everything under inspection. I followed Alexander's operation for a considerable period and was suprised to find failures where I looked for success. I was with Dr. Alexander and saw him operate and had him operate in my hospital. Then I did the other operation of intrafolding or fixing the round ligament to the abdominal wall. When the uterus is freely movable, other things being normal, reconstructing the inguinal canal and replacing properly within it the round ligaments solves in a very large measure this most serious problem.

Dr. Reuben Peterson, Ann Arbor: No one expects to convince anybody by this discussion. Every operating surgeon has his own way of dealing with retrodisplacement of the uterus and, no matter how much time we may devote to this subject here, every man will go home and to-morrow perform the operation he thinks best. We have heard a good deal about the Alexander operation, and of how it is not an operation for the retrodisplacement when the uterus is adherent. It seems to me, however, that Dr. Marcy has hit the nail on the head when he says that we should reconstruct the inguinal canal. The only way in which we can do that is to perform the Alexander operation as modified by Edebohls—opening the inguinal canal and shortening the ligament within the canal. Then, if we find a hernia, as we often do, it can be cured and the ligament shortened at the same time.

I have tried the various operations suggested for retrodisplacement of the uterus. My experience with ventrosuspension has been very bad. I have had to perform Cesarean section twice for dystocia developing after this operation, hence I never perform the operation in the childbearing woman. I have tried the Webster-Baldy operation. I found that while it is good for a certain purpose—elevation of the ovary—there are so many relapses that I have discarded it. Some years ago I adapted the Alexander method in all cases of retrodisplacement with or without adhesions when the uterus needed to be brought forward and held there. I do it through one incision, a transverse or median incision, taking care of all the pelvic pathology and then opening up the inguinal canal, shortening the ligaments, attaching them to the fascia with chromicized catgut sutures, and finally repairing the hernia if that be necessary. I have found two or three hundred cases of this kind in which the operation has given satisfactory results. Now, there will always be relapses from every kind of an operation for retrodisplacement. As pointed out by Dr. Bovée, we find that if we stitch up the uterus to the abdominal wall in a certain class of cases the uterus itself will stretch out and the cervix will appear at the vulva. We will find that after certain other operations the fundus will fall backward, but these are the exceptional cases. There will be fewer relapses after shortening the round ligaments within the canals than after any other operation for displacement.

Dr. I. S. Stone, Washington, D. C.: It seems a little remarkable that cases like these should be mentioned here and no explanation be given as to why certain displacements of the uterus are not curable. Now, take Dr. Bovée's case by way of illustration. Given a uterus whose fundus is fixed to the abdominal wall and, of course, there must be associated trouble with it, if the cervix of that uterus appears at the vulva. It would have been just as well for Dr. Bovée to state, what he knows so well, that the complications around and preceding that condition which have existed for years are the real trouble back of the displacement of the uterus. The cervix appears at the vulva in these cases, not because of its own weight, for the fundus may be attached to the abdominal wall as Dr. Bovée has stated, yet the relaxed ligaments, including fascia and connective tissue, yield before the intra-abdominal pressure from above. As has been said in other years, the reason we do not cure these patients is because we do not understand the pathology, and in the second place, we do not know how to overcome it. I feel sure that in nearly all the cases, whether in a virgin, a married woman or a multipara, the condition is preceded by a descent of the abdominal viscera. If such is the case, why should shortening of the round ligament overcome the trouble? It ought not to do it. The descent has begun in the viscera, the elongation of the so-called sacro-uterine ligaments, and the posterior pelvic peritoneum with the connective tissue has preceded the descent of the uterus. The uterus can not come down until the peritoneum and the posterior supports give way. We ought to recognize that. A great many of us have been trying for years to overcome the second condition first, and we have been getting the cart before the horse. How to correct the descent ought to be the object of every gynecologist instead of inventing some new method by which we can push the uterus back or hold it up. Let us have some papers on how to support the viscera, how to train the young woman so that there will not be the serious consequences to childbirth which are shown very frequently in the form of displacements which we are discussing to-day.

I would like to show why some of the ligament operations are failures. One of the reasons, which ought to be widely mentioned, is paralysis of the nerves in the ligaments which we are trying to shorten. The Alexander operation has failed because the ligaments are seriously injured by the compressing sutures. Webster and Baldy use the best part of the ligament and crush its nerve and blood supply, and when the abdomen is opened for correction of later mischief, a slender string of connective tissue is found with no muscular tissue in sight. Obviously, the ligaments should be secured without strangulation, for injuries to muscular tissue never permit a perfect restoration of function.

DR. HENRY D. FRY, Washington, D. C.: There are many different ways of treating retrodisplacement of the uterus surgically. Many men are perfectly satisfied with the suspension operation; I have had no trouble with it. Pregnancies have progressed normally and there has been no trouble at labor. But sometimes there will be fixation in these cases even when done properly, as Dr. Stone on one occasion did in the gynecologic department of the Columbia Hospital, and I had to deliver the woman afterward by Cesarean section. About fifteen years ago I was trying to find the best method of treating these cases surgically, and my thoughts ran in the direction of the Alexander operation, and I then saw Dr. Boldt operate, but the trouble he encountered led me to discard the thought of that operation. After a long search on one side for the delicate ligament and failing to find it, he went to the other side, caught the opposite ligament, returned to the opposite side and then caught it. Another objection is that the Alexander operation does not cure the complications which accompany retrodisplacement and which are the principal causes of the suffering. One of the most frequent is the prolapse of the ovary. The ovaries are down, and if the uterus is raised, leaving the ovaries down, the patient is going to continue to suffer. I have given up suspension, not from any personal dislike or from any bad experience, but simply because the profession seemed to want to get away from it and I felt that there must be good reasons. I have seen a few cases reported of intestinal obstruction, but have never had this complication.

In looking around for another operation, I then tried the Gilliam method. The trouble with that is the suffering afterward. I find that the Pfannestiel incision—the transverse incision—is advisable in cases in which there is no pus. This incision allows the surgeon to get at the parts much more readily and the operation is much simplified.

I want to say something now in favor of the operation which is here condemned—the Webster-Baldy method. I think that it is *par excellence* the best operation for retrodisplacement; the great advantage being in the lifting up of the prolapsed ovary. The surgeon goes through the broad ligament under the utero-ovarian ligament, catches the round ligament and brings it back in a way that not only holds the uterus forward, but lifts the ovary up. Strangulation of the round ligament has been spoken of as an objection, but I think that is because the operation has been improperly done. If the whole thickness of the round ligament is fastened down it will be strangulated, and it will be a little cord in a few years, but if only half of the ligament is sewed down and the two ligaments used, there will not be atrophy, but a perfect result. In a case reported by Dr. Baldy in which he had done the operation some time before and later took out the uterus, he found that the ligaments had grown into the uterine tissue and could scarcely be seen, but a good firm ligament held the uterus in place.

DR. MARION CRAIG POTTER, Rochester, N. Y.: I think that as gynecologists we are not more successful in curing these displacements by treatments, because we do not get the cases early enough. Advice has always been against the examination of unmarried women, and as physicians we should re-educate the public in this matter. In young women who have severe dysmenorrhea, especially if it has existed since the first menstrual period, some obstruction exists. School physicians when reporting to parents adenoids, eyestrain and defective teeth, should also call attention to menstrual derangements. Dr. Howard Kelly advises the examination of young girls under an anesthetic, and, if indicated, operative procedures.

At this age response to remedial measures for straightening the flexed canal is much more satisfactory, whether by dilatation, Alexander operation or routine office treatment, and such measures not only cure the discomfort, but, by establishing proper drainage throughout the generative system, they prevent the establishment of a "vicious circle," which is sure to follow interference with proper drainage of the pelvic organs, viz., endocervicitis, cervitis, endometritis, metritis, bacteriologic infection from retained alkaline secretion and possibly diseases of the tubes and ovaries. As a result of this symptom-complex, we often have the most unfortunate condition that can befall a woman—sterility. From the standpoint of preventive treatment of sterility, if from no other, we should create a sentiment for early examination of girls suffering from dysmenorrhea.

DR. GEORGE ERETY SHOEMAKER, Philadelphia: I want to speak in favor of the study of the patient, with a reservation in mind that retroversion in itself is not necessarily a condition which requires anything so important as either an Alexander operation or an abdominal section. I think operating on young women who have nothing except a retrodisplaced uterus usually is a mistake. I have always wondered how the large number of Alexander operations could be collected, and in studying my patients I could find few who required simply the reposition of a uterus. If they needed operation at all they had in addition a salpingitis, a diseased ovary, a prolapsed uterus, or some complication which called for more than the Alexander operation. The effort to determine which is the best operation, it seems to me, should resolve itself into the question: What is the best way to keep the uterus forward while the parts are returning to their normal after correcting other pathology in the pelvis? That is often a complicated problem, requiring all the knowledge of mechanics a man can summon to his aid. There is a very limited field for the fixation which has been so much condemned, and only when childbearing is impossible. It is an operation which helps bear up the badly prolapsed uterus after the other things necessary have been done, and usually a good many other things are necessary. There is a field for all the intra-abdominal shortening principles. If operating in the presence of pus and it is necessary to remove extensive adhesions which by contraction pull the uterus over backward, the surgeon cannot tear up the anterior peritoneum and inguinal canal intra-abdominally without some danger of spreading infection. In the presence of such conditions one of the other methods must be used. Light suspension in front of the line joining the cornua, I have done for several years with no unfavorable result. The round ligaments may be attached to the uterus behind, or some modification of the Gilliam operation may be used. I want to emphasize the necessity of the study mechanically of each combination of conditions and to state that we should very rarely operate simply for retroversion.

Dr. A. E. Benjamin, Minneapolis: It was the purpose of my paper to bring out a discussion, because I think this subject should be settled. Gynecologists should be agreed concerning the best operation to be performed. If these patients could be seen early, as Dr. Porter stated, before there were many complications, much could be accomplished. We should know whether there was visceroptosis or a greatly dilated stomach pushing down all the abdominal and pelvic organs and necessarily causing retrodisplacement of the uterus. If we could teach young girls how to overcome this condition there would be little necessity for an operation, except for complications, as some disease of the tubes and ovaries. Many patients will develop prolapse of the ovaries because of this continuous crowding of the organs down in the pelvis. I agree with most of the speakers regarding the principles underlying this subject. I cannot agree with men who believe that ventrosuspension should be done, although I have done it myself; I no longer do it because of the possibility of obstruction of the bowel from the false ligament.

I do not agree with those who believe the Webster operation, or those operations which shorten the round ligament within the abdomen, are ideal. As has been said, they use up the best part of the ligament. There is constriction of the uterus and interference with the blood supply. The idea of my operation is to utilize the same principle involved in the Alexander operation. The skin is dissected back from the fascia and a forceps run down through the tissue in the region of the internal abdominal ring; the round ligament is caught, pulled out, spread out and fastened to the abdominal fascia. The uterus is firmly supported and there is no pain or other trouble following the operation. I find that in this operation I can do a transverse incision nicely, especially in young women, by making a cut at the upper border of the pubic hair line. I carefully examine every patient to see that there are no other conditions to consider than the retrodisplacement.

If the abdominal muscles are relaxed with prolapse of the abdominal organs, I have these patients take exercise, put them in the knee-chest position, put on a long straight front corset, and then I find that gradually the organs assume the normal position.

Forestry and Health in France.—According to *Science*, France derives from her state forests an annual income of approximately five million dollars, or $1.75 per acre. Eighteen per cent. of the entire area of the country, or 23,500,000 acres is forest land. Approximately six million acres are managed by the state, the annual cost of management being ninety-five cents an acre. The great achievement of France in forestry has been the establishment of protective forests where much destruction has been caused by floods. Toward the close of the eighteenth century about 2,500,000 acres comprised in the Department of the Landes were little more than shifting sand dunes and disease-breeding marshes. This section is now one of the richest, most productive and healthful in France. The change has been brought about by the intelligent cultivation of pine forests. Immense forests now cover the country, the sand dunes and marshes have long since disappeared, and the wood, charcoal, turpentine, resin and kindred industries have brought prosperity to the department, which was formerly the most barren and miasmatic in France. The climate is now mild and balmy, the great change being wrought by the forests. The thin layer of clay beneath the sandy surface, formerly impervious to water, has been so pierced by the roots of the pine that there is now thorough drainage to the spongy earth below. The manufacture of resin, tar, turpentine, pitch, pyroligneous acid and wood vinegar is conducted in about the same way as in Georgia and the Carolinas.

THE PRESENT STATUS OF IRRIGATION AND DRAINAGE IN OBSTETRIC AND GYNECOLOGIC OPERATIONS *

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Though there may never be complete unanimity of judgment and opinion regarding the details of the requirements for irrigation and drainage in gynecologic and obstetric operations, there is a growing disposition among us to simplify our practice in these particulars. This has come about through the gradual elimination of the sloppy flushing practice of a few years ago and the abandonment of things like huge glass drains and suction syringes.

A process of evolution by exclusion has simplified the approved practice of today, and in both obstetric and gynecologic operations better results have been obtained with the simpler methods.

The use of solutions of antiseptic drugs, particularly those of the poisonous varieties, is steadily losing favor. The practical antiseptic efficiency of such solutions for irrigation is questionable and the dangers incident to their use are known and recognized. Not only have serious poisonings occurred but deaths from poison have resulted from this practice, and the diffusion and distribution of a previously localized infection has not infrequently occurred. An example of these dangers is afforded by cases in which uterine perforations have accidentally been made during a curettement following abortion, and a solution of bichlorid of mercury has been thrown into the peritoneal cavity through the uterine rent. In this event chemical poisoning and the distribution of the infection both take place. I have knowledge of one such instance; many may be found in medical literature, but for obvious reasons most of such unfortunate occurrences have not been reported.

Irrigation is doubtless best employed for its mechanical effect in washing out of the body such loose debris as the cavity being treated may contain. To this end the force employed should be at the minimum for efficiency and the solution used the least irritating possible.

The elementary principles governing the best modern obstetric and gynecologic practice would seem to be about as follows: Never irrigate if it be possible to avoid it through gentle wiping or sponging. Avoid poisonous and irritating solutions, as they are both dangerous and disappointing. In the main, use irrigation for its mechanical effect in flushing out debris, and always at low pressure.

Summarizing the prevalent opinions of today as to drainage in obstetrics and gynecology one finds it contrasting strongly with opinions and practice of but a few years ago, and happily, also, in the direction of simplification. One now finds himself disposed to avoid the use of drainage wherever possible and believes it possible to do without it many times where it was formerly deemed an absolute necessity. So, too, our ideas of drainage methods have undergone a change for the better. Glass drains are now rarely used even in the abdomen, and by only a very few operators. Gauze, always an indifferent drain, is more often employed for packing and walling off infected areas, arresting oozing of blood which may otherwise be difficult to control and for guarding against fecal and urinary infiltration into the tissues, and leaks into the cavities of the body when the hollow viscera have been injured or sutured.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The majority of the best surgeons of today limit the use of intra-abdominal irrigation and drainage to few and to certain specific indications, chief of which are rupture or leakage from some hollow viscus or localized abscess which has poured into the abdominal cavity food, urine, pus or blood in considerable quantities.

In certain cases of ruptured ectopic pregnancy irrigation serves the double purpose of flushing out the clots and debris and supplying the body with much needed fluid for the heart and blood vessels to act on. Also, in certain cases of shock, a normal salt solution instilled into the peritoneal cavity may act well; but that is not the particular phase of the subject this paper is intended to consider.

It is now generally appreciated that some localized accumulations of pus, particularly those of long standing and of tubal origin, may be safely broken down and turned out through an abdominal incision without irrigation or drainage even though the adjacent surfaces be extensively soiled. Indeed the plan of coffer damming and wiping out with dry gauze is believed to give much better results in such cases than did the older practice of irrigation and intra-abdominal drainage. So, too, certain localized peritoneal infections originating in the appendix are better treated without irrigation and intra-abdominal drainage even though the appendix may have ruptured and the adjacent loops of intestine be injected and mottled with many patches of lymph. Often in such cases the peritoneum will take care of its end of the infection without a protest, though the wound in the abdominal wall may suffer a serious infection which, if unprovided for by a superficial drain down to the peritoneum, may cause great anxiety. The interesting pathologic problems of established immunity on one hand and attenuated virility on the other are important factors under such circumstances, but these also lead us far afield and into a consideration of deeper mysteries than we are prepared to undertake to explain.

Whenever intraperitoneal drainage is really necessary in gynecologic surgery it is certainly better to make it from the bottom of the wound and "down hill" if possible; that is, through the vaginal vault. This plan has so many evident advantages other than the predisposition to hernia which a deep drain through the abdominal wall favors that they need not be enumerated.

Intrauterine irrigations in gynecologic and obstetric surgery have been illogically practiced for more than a generation, and even now poisonous solutions are constantly employed by many physicians who are doing curettements after abortions or after delivery at term, notwithstanding the fact that most of the recent authorities have shown them to be ineffective for good and capable of doing great harm.

The routine employment of such intrauterine douches after uncomplicated normal labors is also advocated and practiced, though the weight of evidence is overwhelmingly against it. In Williams' "Obstetrics"[1] may be found this statement:

> It has been shown experimentally by Bumm that mercuric chlorid injections penetrate the tissues only to a very slight extent. He took the liver of an animal dead of anthrax, and after soaking it for thirty minutes in a 1 to 1,000 mercuric chlorid solution, placed it on a freezing microtome, and cut thick sections from it. After cutting off about 1 mm. he inoculated the next section into another animal which succumbed to anthrax, thus showing that the germicidal action of mercuric chlorid had been exerted only on the surface. If this be the case in the laboratory after the tissue has been immersed in the antiseptic solution, what effect can be expected on organisms embedded in the muscular wall of the uterus, from a transitory application to the surface of a few liters of a weak mercuric chlorid solution? Bumm likewise showed that the streptococci made their way through the uterus with great rapidity, traveling 2 cm. or more in the space of six hours. What has been said concerning mercuric chlorid applies equally well to the other disinfectants.

Notwithstanding the frequent reiteration of statements like that just quoted in almost all the recent standard text-books on obstetric and gynecologic subjects, many general practitioners and not a few gynecologic and obstetric surgeons persist in the use, or rather the abuse, of the poisonous intrauterine douche. Proof positive has been offered time after time of the fallacies and dangers of the poisonous antiseptic intrauterine douche and there is practical unanimity of opinion among teachers and writers that its effects can be nothing but bad, and yet it is employed constantly by many who should know how dangerous it is.

What is there about the practice of the obstetric art that makes the average man so impervious to incontrovertible proof? Our reluctance to accept the truth in regard to the contagiousness of puerperal fever for almost a half century after it had been logically proved is an indictment under the shadow of which we should long stand in deep humility and in atonement for which all our efforts should be exercised in a determination henceforth to keep our minds open to conviction.

Intrauterine drainage is, under some circumstances, a most important surgical detail, but, so far as I have been able to observe, it is rarely employed logically or with a proper regard for the mechanical principles involved in the attainment of the ends sought.

From a mechanical standpoint, a tampon is little more of a drain than a dam is an aqueduct in hydraulics. If the conditions inside the uterus are such as to demand drainage in the true sense in which the word should be used, a gauze tampon, or even a gauze wick, if that term be preferred, does not meet the indications. The capillary action of gauze is incapable of carrying off under any circumstances more than the thinnest fluids, and even those only for a short time, as the meshes of the gauze soon become filled and its capillarity is destroyed. The principles of true drainage require that the drain shall be open and free; that it shall be capable of conveying thick fluids, such as pus, blood, mucus or necrotic debris, and that it be capable also of being flushed and freed while *in situ*.

Such a drain is often invaluable in the uterine cavity, as it may be in many other situations; but, with the known tendency of the internal os to contract and so retain within the uterus putrescible or infected material, a free drain adapted to flushing and capable of conveying thick fluids is a necessity. Such a drain I devised some years ago and my experience with it has been such that I venture to speak of it here, notwithstanding previous mention of it elsewhere. It is made of rubber tubing of a size adapted to the requirements of the case in hand and of thick or thin walled tubing, depending on the pressure it must withstand from without. It may be adapted to bladder irrigation and drainage, as it makes an admirable and easily constructed retention catheter out of material always at hand and one that can be readily introduced and removed. It works equally well after operations for perineal or suprapubic prostatectomy and for draining the pleural cavity it is admirable, but as an intrauterine drain in infection, sapremia, etc., it has been found most useful. The accompanying drawing and legend will best describe its construction.

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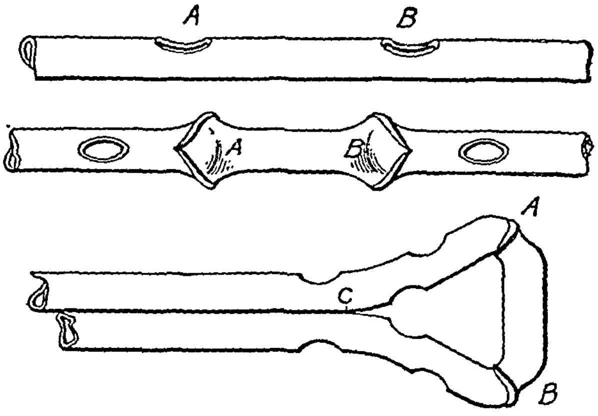
[1] Obstetrics, 1908, pages 885-886.

One of the most dangerous features of the ordinary intrauterine douche as it is commonly employed is the necessity for frequent and repeated introductions of the irrigator through the infected vagina and cervix with all the risks of a retrograde infection that necessarily attend such a proceeding. When practiced by the physician or nurse several times a day, as is sometimes done, it is inconceivable that the vaginal, cervical, or vulval bacteria are not conveyed into new fields during the operation and the patient may be congratulated if she does not also receive some new infection from the hands or instruments of the operator

Such retrograde infections of the bladder are of common occurrence as a result of the repeated use of the catheter, even though the opportunities for cleansing the field are good.



1. Cut two holes in a long piece of drainage tubing as indicated at A and B. 2. Draw one end of the tube through A and out at B, thus inverting that portion of the tube between the holes as seen in 2. 3. Bend the legs of the tube down so that the holes A and B will be left open for drainage. If bent in one direction they are open, if in the other closed. Tack with a blind stitch at C.

The advantages of an irrigating and draining device which may be placed once, and once only, with due precautions against infection and through which the drainage and the flushing fluid may always flow from within outward must be apparent, whether the cavity to be flushed and drained be that of the bladder, the uterus or the pleura. This flow from within outward is accomplished in a most satisfactory way by the tube shown. When used with diluted alcohol, according to the suggestion of Carosso,[2] or with sterile water, salt solution, a solution of potassium permanganate or a dilute iodin solution, it may be a means to a most desirable end.

Through these tubes an intermittent flushing of an infected uterine cavity may be made by a nurse at frequent intervals without changing the position of the patient in her bed, or, indeed, it may be done without waking her if she should be asleep, as one of the legs of the tube can be permanently connected with the reservoir containing the flushing fluid and the other with the receptacle beneath the bed, so that the fluid can be carried into and out of the uterine cavity by continuous flow, if that should become necessary, and be stopped or started at will with a simple pinch cock.

Dilute alcohol solutions (33 per cent.) so used have given astonishing results in the after-treatment of sapremia and uterine and vaginal infections.

With this simple device for drainage and a continuous flow of boric acid solution at low pressure success has also attended efforts to close large vesicovaginal fistulas in badly infected bladders, one person having been previously unsuccessfully operated on eleven times during twelve years. Success in this instance was made possible by the perfect draining of the bladder and the prevention or solution of the ammoniacal urinary concretions and incrustations which had been deposited on the catheter and bladder walls in her previous operations.

Drainage, real drainage, of the uterus and bladder under certain conditions may be indispensable.

When irrigation of these cavities is necessary it should be made with non-poisonous solutions, and in the main with a view to their mechanical effect in flushing the cavity as in contradistinction to their chemical and antiseptic effect.

Low hydrostatic pressure should be employed and ample provision must be made for the return flow of the flushing fluid.

ABSTRACT OF DISCUSSION

Dr. I. W. Potter, Buffalo: While douching following normal labor has its disadvantages and is said to be dangerous under certain circumstances, I think it also has its advantages, and with me it is a routine practice. I do it myself, but never dot it more than once in each patient.

Dr. W. W. Golden, Elkins, W. Va.: I wish to add my testimony from a somewhat extensive experience to the utility of the use of douches of solutions of iodin. This solution serves a useful purpose, especially under certain conditions in which the general practitioner often has to work, when it is not convenient or possible to exercise and practice proper aseptic precautions in intrauterine manipulations. The use of iodin solutions a little stronger than usually recommended has proved satisfactory in my hands and in the hands of a number of physicians who have followed my suggestions.

Dr. Edward J. Ill, Newark, N. J.: In considering the question of drainage of the uterus we must remember that the uterine cavity is not a hollow space, that the walls come together. No irrigation tube will separate these two surfaces sufficiently to keep the cavity perfectly clean. To do it well, the much-maligned gauze should fill the uterus. If the physician will separate those two uterine walls by gauze and through the center of it put a rubber tube up to the fundus with an opening at the end and pour a 25 per cent. solution of alcohol through it once in three hours, he can thoroughly cleanse the uterine cavity without in the slightest disturbing the patient. These septic surfaces are constantly bathed with a 25 per cent. solution of alcohol. Ahfeld describes scientifically the importance of disinfection with dilute alcohol. I have used this method for fifteen years and whenever I get hold of a patient within two or three days of the infection she recovers. If I get the case later than that, the infection has entered the lymphatics or the veins and the results are not so certain, though in many cases they are satisfactory. At the end of five or six days the gauze and tube are removed and the gauze is found to be just as clean as when it was put in. This gauze is not foul and ill-smelling and filled with all sorts of discharges from the uterine cavity.

Dr. Henry D. Fry, Washington, D. C.: I protest against what has been said about the use of intrauterine douches after normal labor. I am sorry that the doctor who said there were certain advantages to be derived from it did not state what they were, and I can not see what the benefits are. If the labor is normal and the uterine cavity is not *infected* there is danger of carrying infection into the uterus by douching it. This method has been tried and we know that the morbidity and mortality have both been increased by the use of the intrauterine douche when there is not distinct indication for its employment. I agree with the essayist that it seems to be very difficult to stop this practice among obstetricians; men who are supposed to be conversant with the best methods of treatment and that they will continue to use the curette also, which I think is dangerous, unless clearly indicated. I think there are distinct indications for it in some cases—infection, especially of the saprophytic kind, also septic endometritis, and when débris, foreign matter and clots have been retained. I think the effect is just as good from the use of normal salt or sterile water as from an antiseptic solution. It is the mechanical effect of the water that does good. If there is colon infection the douches are good. In streptococcus infection there is no advantage in the use of the douche. If streptococci are found, let the uterus alone after a preliminary cleansing.

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[2] Wetherill: Am. Jour. Obst., 1903, xlvii, 5; Am. Med., Jan. 30, 1904, p. 189

One point not mentioned and which has given me much trouble is in connection with the vaginal operation for ectopic gestation with extraperitoneal hematocele; in which one opens through the vault of the vagina and through the sac, to get out broken-down tissues and clotted blood. I clean out and put in a double drainage tube, but I have not been able in a single case to prevent fever. I should like to hear the experience of some of the gentlemen in these cases. Notwithstanding my greatest care in washing out the sac and inserting a double drainage tube, I have had septic fever. All my patients have recovered, but I look for fever in such cases for about a week or ten days, and if anyone knows how to drain these cases and not have fever, I should like them to tell me.

DR. H. P. JACK, Canisteo, N. Y.: I do not believe the members of this Section, at least those with whom I have talked, know of the benefits to be derived by following Dr. Wetherill's technic. For the past five years in an extensive consultation practice I have seen many patients with septic infection of the uterus, some of the cases being of longer standing than mentioned by Dr. Ill, some of the patients almost moribund, and yet I have seen them recover under the persistent use of this technic. I commend the method; it should not be withheld in streptococcic infection. The alcohol is absorbed as well as the streptococci and how much good is done we cannot say. I have seen patients in whom the chills persisted, and multiple abscesses had formed at the points of pressure, recover under this treatment carried out for three or four weeks. I have never been able to obtain any such results with anything but alcohol, and I hope we shall have a more general use of a measure which is of such value.

DR. H. G. WETHERILL, Denver: Many of us feel that there is a very limited field for vaginal operation for ectopic pregnancy. While that field is limited, it has special indications which must be met, and one of them is "drainage," so-called, but in my judgment that is one of the forms of "drainage" to which gauze is better adapted than a tube. It approaches more nearly a need for a tampon than for a drain. My own practice, when vaginal operation is done for ectopic pregnancy, is to evacuate and pick out the clots as well as possible and to tampon with a wad of gauze. If in my opinion this will not meet the indications, abdominal section is done. The opinion of Dr. Ill I should have a great deal of respect for, because he has doubtless had a large experience with the intrauterine douche with alcohol solutions in sepsis and I have no doubt he obtains good results by his method, but in my judgment he is entirely in error in saying that there is no cavity inside the pregnant uterus. In the ordinary case in which pregnancy has advanced beyond six or eight weeks, the uterus is flabby and soft and its walls do not fall together as in the unimpregnated uterus, but whether there is a cavity or not is unimportant. Packing gauze into the uterus and leaving the gauze as a dam and not as a drain, interferes very much with the return flow from the uterus and it makes necessary—what is not necessary with the tube alone—the removal and changing of the gauze at short intervals. This is a menace to the patient because of the risk of retrograde infection.

A STUDY OF THE TRAUMATIC INSANITIES*

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The study of the question of the relationship of trauma to insanity clearly reveals the fact that medical opinions on this subject are not as yet well settled or defined.

Many writers, especially the older ones, hold that injuries to the head and cerebral concussion, by causing inflammation of the meninges which spread to the brain, disorder its circulation and nutrition and thus produce psychic disease, at once or after a long interval. This theory has not been sustained by the facts found in many cases, for the reason that the surgeon and pathologist have failed to show such a state of facts. If such lesions did exist they would have given recognizable symptoms (which actually have been entirely absent) during the interval. Most of the more recent writers have modified this view and hold that, with or without material injury, the shock produced by the accident may cause molecular changes in the brain, thereby producing psychic disturbances or a predisposition, especially in neurotic individuals; that such insanity may not occur until after a long interval, during which no special symptoms occur, and that the immediate cause of the condition is some later intervening factor.

This view is also open to objections. It must be admitted that, in those cases in which an interval of time occurs, these later etiologic factors are of themselves competent effective causes in persons who have received no such injury; that there is no proof of any such molecular changes if they produced no recognizable conditions, and that every human being has at various times in his life received injuries to the head of varying severity. Thus a history of head injury is of no more importance in an insane person than in other individuals. One of these authors is conflicting in his statements when he adds that the trauma must be of some consequence and produce cerebral concussion.

The solution of this question appears to be that both organic changes occurring after severe head injuries, and severe fright occurring with trivial injuries, may immediately or after a period be followed by psychic disturbances, and that in the latent cases the two must be connected by recognizable conditions.

One writer contents himself by stating that "all degrees of injury to the skull or brain may be followed sooner or later by progressive dementia." Such assertions as this are objectionable, as they form the basis for the assumption that any dementia occurring at any time after an injury may be due to it. The importance of this question from its medicolegal standpoint is very great, and the conflict of opinion has done much to discredit our profession as a scientific body.

Excluding hysteria, three psychoses seem to be well recognized as being the direct result of psychic or physical trauma, psychic trauma causing traumatic hypochondria, and physical trauma, acute primary traumatic insanity, organic dementia, or idiocy and imbecility.

Much of the confusion which surrounds even these psychoses is due to the fact that authors often attempt to describe them together as the result of head injury and thus fail to define the conditions clearly.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

TRAUMATIC HYPOCHONDRIA

The peculiar mental picture presented by many of the traumatic neurasthenias and hysterias caused them in the past to be described under the name of the traumatic neuroses and more recently under that of the traumatic psychoses.

The weight of medical opinion as to the nature of the condition in question, as shown in the more recent medical writings, is shown by the facts that Kraepelin, Oppenheim, Strümpell, Mendel and Bruns hold that it is a pure fright neurosis and differs from hysteria in origin, clinical expression and course; that Diefendorf states that the French writers, Schultz, Hoffman and Mendel, hold that it is either hysteria or neurasthenia; that Charcot held it to be purely a hypnotic condition; that Oppenheim states that the autopsy findings are usually negative, that a few cases have shown arteriosclerosis; that Friedman, Kronthal and Koppen consider it to be due to vasomotor disturbances; that Schmaus, Bickles, Vibert and Koppen believe that minute material alterations are concerned in the condition, and that it is in reality a combination of neurasthenia and hysteria with a peculiar mental state, and that Strümpell states that there is no material injury but purely a psychic change.

It appears from this statement that the hypotheses of some of the older writers of minute material alterations, a term which is exceedingly indefinite, has not been substantiated either by the course of the psychosis or the pathologic findings; that the presence of arteriosclerosis can not be regarded as of more than an accidental occurrence, for it has been found in only a few cases and is a common condition in mankind; that the fact that vasomotor disturbances should have been found in some cases is not of any importance, as these regularly occur in hysteria and hysteria regularly complicates this psychosis, and that the condition is a pure psychosis.

The condition may be defined as a fixed delusion on the part of the patient that he has sustained some severe and permanent injury as the result of some accident, and is often complicated by hysteria or neurasthenia or a combination of both. This delusion in no way differs from similar hypochondriac delusions due to other causes.

The producing causes for this symptom-complex are stated by Kraepelin and Diefendorf to be general but not severe injuries with but little shock, but accompanied by fainting and excitement; Kraepelin, Oppenheim, Diefendorf and Strümpell say that it is due to a tormenting anxiety and a morbid state of the mind and that it may occur without injury; Diefendorf says that it is a question if the emotional disturbances which occur at the time of the injury should be regarded as the cause, since frequently weeks or months elapse between the injury and the first symptom; Diefendorf and Strümpell state that an important factor is a claim for damages or a membership in an insurance society, and Oppenheim says that it may develop without a claim for damages. It appears, then, from this statement, that this condition may arise either from the happening of some accident or from the occurrence of other factors which may arise weeks or months after its happening.

A study of my cases reveals the fact that this delusion may arise from an exaggeration of the consequences of the injury, especially when founded on symptoms of a hysterical nature; from an error in diagnosis and prognosis on the part of the patient's regular medical attendant, as we not infrequently find hysteria diagnosed as multiple sclerosis, myelitis, cerebral or spinal hemorrhage, neuritis, concussion of the brain or cord, and epilepsy, from the fact that when legal proceedings have been begun the patient is apt to fall into the hands of a physician retained by his attorney, whose sole function appears to be to make the case appear as grave as possible; from the fact that the examination of the patient often discloses the existence of some previously existing condition of which the patient had little knowledge, which the patient attributes to his injury and becomes the foundation for his delusion, and from a claim of damages or membership in an accident insurance, which, although it may not be the direct originating cause, has an undoubted tendency to make the condition more marked. Usually we find more than one of these factors acting in the same case.

Of 31 cases, reports of which I have been able to collect and in which the condition is known after periods varying from seven to twelve years, 13 occurred in females and 18 in males. The ages varied from 21 to 58. Nine occurred in the third decade, 16 in the fourth, and 3 each in the fifth and sixth. It is then a psychosis of middle life—a period when the struggle for existence is most intense. This fact is emphasized by the social condition of my patients, as 29 of them belonged to the humbler ranks of life; their incomes were barely sufficient to meet their necessities, and anxiety about the nature and consequences of their injuries would be naturally most marked in such persons.

The character of the accidents were falls from the steps of cars in 8, falls from wagons in 4, blows on the head in 5, falls on the buttocks in 2, general commotion from collisions in 12—and 5 of the latter sustained no objective signs of injury. The physical results of these accidents were contusions on the head and body in 22, a Colles' fracture, a broken nose, a sprained back and a crushed hand in 1 each. These cases, then, support the contention that the physical injury is usually slight and that it is the fright and anxiety due to the accident which is the real producing cause. This fact is also shown by the immediate symptoms occurring in these cases, which were fainting in 6, daze in 7, shock in 3, and hysterical and real coma in 1 each. In the other cases there were no immediate symptoms. In all these cases a more or less marked condition of hysteroneurasthenia developed.

The psychosis itself developed immediately after the accident in 16 cases, while of the remaining cases a period of one week elapsed in 5, two weeks in 4, two months in 4, and seven months in 2. The influence of the character of the diagnosis and prognosis in developing the psychosis is very evident in my cases. In 7 of the immediate cases the condition was diagnosed as a serious and permanent injury, in 4 the character of the condition was recognized but permanency was claimed in 2, and in the remaining 7, in which a good prognosis was given, all made a quick recovery. In 4 cases the discovery of a floating kidney, a uterine displacement and an irregularity of the skull and ribs, which were claimed as fractures, was the foundation for the psychosis. The effect of the opinion of the physician who examined them on the part of their attorney is also evident, for in 9 a marked increase occurred in the symptoms after the examination, while in one personal case in which the patient was assured that his physician was mistaken in his having a spinal-cord hemorrhage, rapid improvement occurred. In 9 of the cases in which a period of time elapsed between the accident and the psychosis, the latter did not develop until litigation had been commenced and such examination made. In 2 of these an error in diagnosis on the part of the medical attendant had also been made.

As a result of such causes the patient's *mind* becomes dominated by a fixed delusion that he is suffering from a serious and permanent organic injury which has ruined his life. This delusion differs from the fear of evil consequences of the neurasthenic from the fact that the latter has some doubt of the reality of his fear, that he does not lose the hope of recovery, that his fears are not clearly systematized as in this condition, and that he never commits suicide. Loss of memory is often claimed, but is never real; the apparent loss, mental slowness and confusion, being due to the fixation of the mind on one train of the concepts. The patient becomes emotional, irritable, depressed, apathetic, avoids society, and is constantly talking about his miserable condition and his ruined life. In some cases there may be violent outbreaks, hallucinations, and suicidal attempts. With this condition we have as a rule hysteroneurasthenic symptoms.

The prognosis of this condition is of great medicolegal importance. Diefendorf holds that in light cases, even after a long duration, it is good, and that it is worse in cases with marked local symptoms; Kraepelin that many cases are obstinate in their course and that the condition often disappears after damages are paid, and Oppenheim believes that the prognosis is bad in cases with advanced arteriosclerosis, that marked cardiac or vascular symptoms make recovery rare, and that litigation and early return to work are unfavorable. In my cases 26 patients show, after a period of from five to ten years, a condition of complete recovery. Of the 5 patients who have not recovered, 3 are over fifty and show well-marked arterial degeneration and the other 2 have hysterical contractures. The effect on the prognosis of an early and correct diagnosis is well marked in my cases. Of the 26 cases in which recovery ensued, 14 were diagnosed as permanent organic conditions and 1 as a permanent form of hysteria; and in these cases recovery occurred in from one to five years; and in the remaining 11 cases in which a correct diagnosis and prognosis was made, recovery occurred in from two months to two years.

The effect of litigation in prolonging the psychosis is also clearly shown. In 21 claims for damages existed and in all but one no recovery occurred until such claims were disposed of. Ten of these cases came to trial. Six of the plaintiffs were given favorable verdicts and then recovered after periods varying from six weeks to four years. Of the 4 patients who were unsuccessful in their suits 2 recovered after periods of one year and 2 have not improved. In 10 of these cases settlement was made out of court, and 8 of the patients recovered after periods of from two to eight months.

ACUTE PRIMARY TRAUMATIC INSANITY

This form of insanity seems to be one for which an injury is the only recognized cause. It is also undisputed that trauma, to be the producing agent, must cause an injury to the brain, and that the symptoms of the insanity must be continuous with the symptoms of the injury or be connected with them by a definite train of cerebral symptoms.

That insanity is not a common result of head injury is shown by the facts collected by Meyer, who shows that in the Franco-German war only 13 cases occurred in 8,985 head injuries; that Stapler found 12 cases in 931, Meyer 1 per cent. in 3,000, Frost 1.87 per cent., Kiernan 2 per cent., Edel 2.5 per cent.; and I have found 1.8 per cent. in 1,668. The contention of Kraepelin, Peterson, Meyer, and Kellogg that the producing cause must be a severe head injury is supported by the histories of my cases, for they all show well-marked effects of cerebral contusion, as profound coma, and were complicated by fracture of the skull and meningeal hemorrhage in 6 each.

The assertion of Meyer that insanity occurring as the result of such injury is most often found in persons of a neuropathic heredity, or suffering from alcohol or syphilis, is supported by the facts found in my cases; an insane family history existed in 5, previous insanity in 4, alcoholism in 6, and syphilis in 8.

This form of insanity is one in which a definite lesion has been shown, both by the surgeon and pathologist; and that is the lesion of cerebral contusion. Fractures of the skull are not of themselves of any etiologic importance except as they show the severity of the producing cause or cause a compression or penetration of the brain. Such contusions are most common about the fourth ventricle or at the tips of the frontal or temporal lobes (Meyer). Microscopically they consist of minute lacerations, minute hemorrhages and thrombi, capillary stasis with cellular infiltration of the vascular walls and lymph spaces, and a localized or general edema. Meningeal hemorrhages of varying size are also common. It is well established that all these lesions except the large hemorrhages may entirely disappear; but in some cases the condition may be followed by permanent changes in the cerebral circulation and nutrition.

The clinical picture and course of a case of this form of insanity is held by Kraepelin and Meyer to be diagnostic of a severe cerebral contusion; and my cases fully sustain this contention, for in all the injury was followed by coma lasting from one to thirty-six hours, muscular relaxation, dilated unequal sluggish pupils, rapid feeble pulse, and followed by headache, vertigo, delirium and a rise in temperature. In the majority of the cases the insanity immediately follows the symptoms of the cerebral contusion, but in other cases a period of time intervened which was usually short, but, as shown by one of Meyer's cases, may be as long as twenty-three months. In my own cases the insanity immediately followed in 19, and in 9 a period of from six days to one year intervened. During this period these patients suffered from headache, vertigo, insomnia, irritability and change in disposition.

The invasion of the psychoses is rapid. The patients become excited and sleepless or somnolent, or the two conditions alternate. The mood varies from depression to elation, with no idea of illness. The patient at times is agitated and violent. Mental confusion is marked, as is loss of memory, especially for facts just before and following the injury. There is marked loss of knowledge of time, situation and identity of persons. The answers to questions are rapid, rambling, and the facts asserted are fictitious. Hallucinations and delusions, brief in duration and changing in character, are common. Objectively there is a general tremor increased by movement, indistinct speech, a spastic paralytic condition of the muscles with twitching, and occasionally convulsive attacks of the petit or grand mal type. The deep reflexes are increased and Romberg's sign with ataxia of the limbs is common. The pupils vary at different times and may be dilated, contracted, unequal or irresponsive, causing the case to resemble general paresis. After several weeks or months, improvement gradually occurs and the case may go on to complete recovery, or this may be incomplete, or pass into some other form of mental derangement.

The duration of the psychosis in 11 cases reported by Meyer in which recovery took place was from two months to two years; and in 18 similar cases of mine, from six weeks to two years. Death occurred in 4 of Meyer's cases, after the development of the psychosis, after two days to one month and in 4 of my own after a period of from seven days to four weeks. In the remaining cases reported by Meyer 3 patients recovered but relapsed, 2 made partial recoveries, 1 developed epilepsy, and 4 developed some other form of insanity. In the 10 similar cases of mine 2 patients became epileptics, 2 partially recovered, 1 developed manic-depressive insanity, and 5 passed into dementia.

Kraepelin and Meyer assert that, when dementia follows this psychosis, it is always the result of epilepsy, arteriosclerosis, or alcoholism; and this statement is sustained by the facts found in my cases. Death, when it occurs, is due to exhaustion from continuous muscular movement and persistent insomnia.

ORGANIC DEMENTIA

As has been said, this psychosis may follow acute primary traumatic insanity, or may be the result of traumatic epilepsy, or of cerebral hemorrhage, thrombi, meningitis and abscess due to the same cause. Such a dementia is, of course, permanent in character, and more likely to occur in persons suffering from arteriosclerosis, alcoholism, syphilis or a neuropathic taint. To establish a dementia, then, as of traumatic origin it must appear that it was preceded by one of the conditions mentioned.

IDIOCY AND IMBECILITY

These may in the same way follow any injury which destroys the brain tissue before development, as hemorrhage, thrombus, laceration or abscess; but it is to be noted that the reparative powers at this early age are so great as to make this result very uncommon.

DEMENTIA PRÆCOX, MANIC-DEPRESSIVE INSANITY, MELANCHOLIA, ACUTE DEMENTIA, AND PARANOIA

These have been described as occurring from the shock due to some injury. From the small number of cases said to be due to this cause it would appear that the accident either only called attention to an already existing condition or hastened the development of the psychosis.

GENERAL PARESIS

The relation of this condition to injury to the head is yet a much disputed question. Some writers maintain that it may be directly due to the injury; others that the injury only aggravates the course of an already existing condition (for, as is well known, paresis may develop rapidly after a long latent period), and others believe that the so-called traumatic cases are really ones of acute primary traumatic insanity passing into dementia. The superficial resemblance of this condition to true paresis has already been referred to. In my opinion the two latter views are the most probable. It is easy to understand how such a complex lesion as that of paresis might be aggravated by a cerebral contusion though not caused by it, and how the traumatic cases closely simulate paresis. I myself have never seen a case of true paresis which I was satisfied was of traumatic origin.

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ABSTRACT OF DISCUSSION

DR. M. ALLEN STARR, New York: Three cases of traumatic insanity have come under my observation in which successful operations have been performed for the relief of the insanity. None of these cases corresponded to any of the ordinary types of mental disease as described. In the first case a young man of 21 was subject to sudden attacks of violent headache which culminated in an attack of acute mania, with destructive impulses. These attacks would last from three to five days, then subside, and he would be entirely free from the condition. He had a perfectly good memory which indicated that there was no epileptic psychosis. Dr. McCosh opened the skull over a point of tenderness on percussion, just posterior to the ascending parietal convolution in the superior parietal lobule about its junction with the interior lobule. This patient had a history of having had a fall as a boy at the age of 12, although the symptoms did not come on until he was 14, and he was operated at 21, after this long period of invalidism, and we found a very beautiful angioma that it was perfectly possible to tie off and take out, with complete recovery.

In another case which came under my observation not long ago, a man had been hit a severe blow in the head. He had been perfectly healthy before that time. He was coming up out of a boat and did not notice the projection of the gangway as he came up, and hit his head very suddenly. He was dazed for a moment, and next day he was found to have a slight paralysis of the opposite side of the arm and face that lasted for several weeks and gradually passed off. Then he became subject to sudden attacks of wild maniacal excitement in which he had been homicidal on several occasions. These attacks would come on very suddenly, without warning, and they had occurred from time to time when I saw him for four or five years. The hemiplegia in the meantime had entirely passed away, nor was there any physical evidence of any defect excepting the occurrence of these attacks.

Under the circumstances, every other resource having failed. I suggested that the surgeon cut down on the motor area, or somewhat anterior to the motor area of the brain, and at the level of the middle third, on the possibility of there having been some injury of the frontal region that had encroached on the arm center at the time, and then had healed. We cut down and found a cyst about the size of a pigeon's egg lying right on the posterior part of the second frontal convolution, forward of the motor zone. There had been no epileptic manifestations, by the way, whatever, and it was purely a lucky find. The walls of the cyst were carefully removed, and evidently the man had had a slow hemorrhage occurring from a vein of the pia mater at the time of his injury; and that hemorrhage had organized and gone on to the formation of the cyst. The cyst had lain there and apparently had given rise to occasional symptoms of pressure, probably owing to some variation in the circulation and some occasional condition in the cyst that gave rise to these attacks of mania from which he is now perfectly well.

I will not describe the third case, but I will say that not only in my experience in these three cases, but also in a number of other cases of traumatic insanity, I have seen symptoms of insanity irregular in type, which do not correspond to classical types of insanity as shown in the text-books at all.

DR. A. C. BRUSH, Brooklyn: These cases do not correspond to the classical description in the text-books. To a man dealing as I do with corporations it is embarrassing to have certain text-books put before one which purport to cover the whole ground and yet do not state the truth. This field of litigation is very important, and it is doing more to discredit us than anything in the world, with the general public and the courts, and it is time that our ideas were clearly defined on the subject.

Literature of Obstetrics in Mexico.—N. Leon has been compiling the bibliography on obstetrics in Mexican literature. His compilation has been published serially, running through several numbers of the *Cronica Medica Mexicana*, listing a total of 696 articles or books. The title of each is given in full, with source, the whole arranged alphabetically by authors and concluded in the issue for September 1, 1909.

PELLAGRA IN VIRGINIA

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In a recent article, Wood[1] makes the statement that no cases of pellagra have been reported from Virginia or Ohio, although these states furnish a large portion of the corn consumed in a section of the country from which he has been able to report a number of cases. That genuine pellagra may occur in Virginia, however, I believe the following case will bear witness:

Patient.—H. A. S., London Bridge, Va., aged 56, white, widower, occupation milling and farming, was born in Charlotte county, Virginia, reared in Pittsylvania county, and remained there the greater part of the time till February, 1909, when he moved to Princess Anne County, Virginia. He had spent a year each in Roanoke and Lynchburg, Va., where financial reverses made him poor. He had also spent three years in Nebraska and then returned to Virginia.

Family History.—The patient's father was killed in an accident at the age of 48; his mother died of old age at 84. Two brothers are living and well. Two brothers are dead; one of "Bright's disease," the other of "brain fever." Five sisters are living and well. One died when 3 years old of whooping cough. There is no history of cancer, tuberculosis, rheumatism, or insanity in any member of the family. The patient's father and two of his brothers always suffered from diarrhea whenever they ate bread made from corn-meal.

Personal History.—During childhood the patient had diphtheria, measles, mumps, and whooping cough. He had typhoid at 18, malaria and gonorrhea at 26, grip at 35. Since 35 he has always been well till the present illness. He has noticed that bread made from corn-meal always disagreed with him, even in childhood, producing diarrhea and intense intestinal pain. His father and two of his brothers, as above stated, were also similarly affected by corn-meal bread, but he has no knowledge that any of them ever suffered with roughness and desquamating of the skin at any time. His average weight is 145 pounds. He uses tobacco and alcohol moderately. He is the father of seven children, all of whom are dead. The second child died at the age of 13. His wife died sixteen years ago. They lived together eighteen years. He denies lues.

Present Illness.—The patient is now a very poor man and for the last three years has been living in cheap boarding-houses or keeping bachelor's quarters in which he did his own cooking. During the latter part of last fall, owing to the scarcity of work and the high price of flour, he was compelled to eat more and more corn-meal. About the middle of last December his present diarrhea began, very mild at first, but slowly and steadily increasing in intensity till about six weeks ago, when he had from ten to twelve movements per day, with agonizing tenesmus and distressful abdominal pain and nausea. For the last month he has ceased to use corn-meal in any form and the diarrhea has considerably abated. Since December he has lost about thirty-five pounds in weight and has been reduced from a robust, virile, workingman to a puny, weak, sickly individual, to whom life itself is almost a burden. About ten weeks ago, while picking strawberries, the back of his neck became red and burned, as if sun-burnt. At the same time he suffered with intense headache which was confined to the region "behind his ears and extended across from ear to ear." This continued for about ten days. During this period the skin on the back of his neck began to peel off. About the same time the skin over the bridge of his nose and the side of his face, after having been red and painful, likewise began to desquamate in small and large dry scales and bran-like particles. About six weeks ago the skin on the back of his hands began to look as if they were blistered, being swollen, red and painful, and scattered vesicles filled with serous exudate were formed. The surface then became quite dry and hardened, cracking at all the joints and in between the fingers. Both hands were similarly affected and about the same extent of surface on each involved. In about a week the skin on the back of the hands, fingers and lower one-third of his forearms began to desquamate in the same manner as that on his neck and nose. About the same time all of the toes of both feet became swollen and red. They burned slightly and itched in a most intense manner. This, however, disappeared within a week and there was never any induration of desquamation of any portion of the skin. About five weeks ago the gums of his upper jaw became swollen and red. There was slight salivation for a few days but this soon disappeared and has not since recurred. Since December he has vomited only once, that he remembers, but has repeated attacks of nausea every day. During the last ten weeks he has had repeated attacks of vertigo; often becomes dizzy on rising from a sitting to a standing position, or on rising from a recumbent position, and everything becomes black before his eyes.

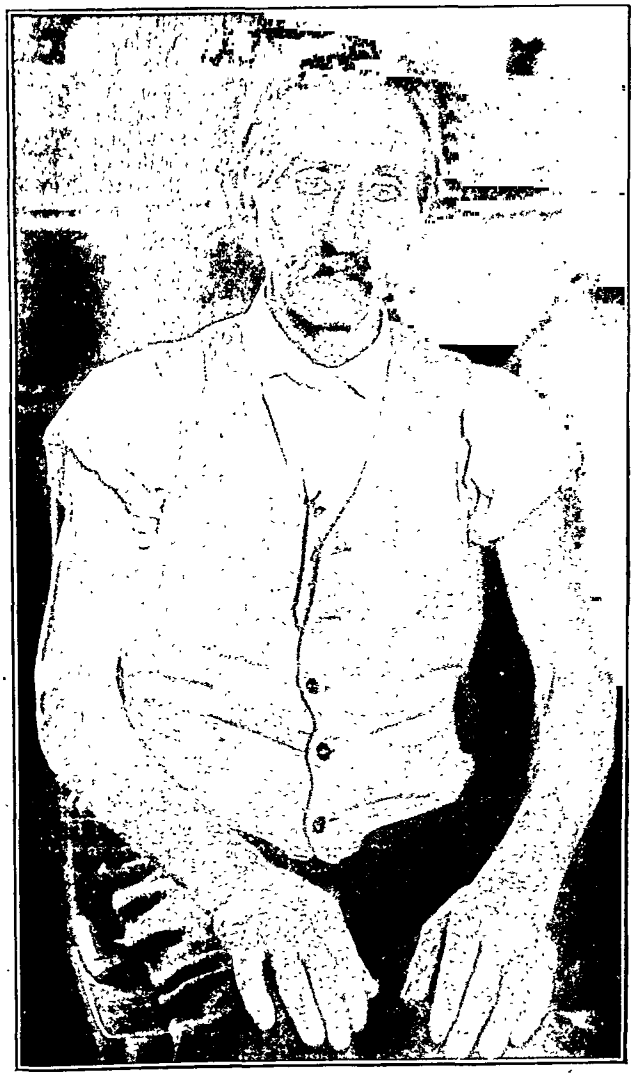

Fig. 1.—Patient with pellagra, showing the apathetic, smile-forgotten expression of the face and the extent of the lesion on the hands.

Examination.—General: The patient is a moderately emaciated white man, well advanced in years, with a very apathetic, listless appearance. He answers questions in a slow, whining monotone. He is sitting up and is able to walk around to a limited extent; however, his gait is slow and he is evidently very weak. He gives a slight groan with each expiration and appears to be in great distress. His hair is lusterless, dry and straight. The eyes react sluggishly to light and accommodation. All of the upper teeth have been removed. The lower teeth all show more or less marked decay. Pyorrhea alveolaris is quite extensive. Respiration is slightly labored. The skin everywhere has a muddy pallor. The heart, lungs and thorax show nothing abnormal. The abdomen is scaphoid in shape. The liver, spleen and kidneys are not palpable. The deep reflexes of the upper and lower extremities are incrased. Plantar stimulation gives a slight dorsal flexion of the great toe. No patellar nor ankle clonus can be obtained. There is no Romberg's sign, but slight tremor on protruding the tongue. The patient gives no history of urinary trouble at any period of his life, though for the past four months he has had to get up once or twice every night to micturate, otherwise, negative. Freshly voided urine shows a specific gravity of 1032; deep amber color; sugar and albumin, negative.

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[1] Wood, E. J.: Pellagra in the United States, The Journal A. M. A., July 24, 1909, liii, 274.

Skin: Over the back of the neck, extending upward to the hair line and downward to the level of the upper border of the soft shirt collar, the skin is of a dirty rose-pink color and everywhere covered with small and medium-sized patches of dry exfoliating epidermis. This superficial epidermis may be easily removed and no bleeding points remain. The same appearance and condition may be noted on each side of the neck, extending as far forward as the anterior border of the sternocleidomastoid muscle. Similar areas over the cheeks, sides and bridge of the nose, and the lateral aspect of the forehead, fuse and become continuous with these areas on the neck. The symmetrical situation of these lesions on each side of the head is marked. Over each side of nose, especially marked in the region of the alæ nasi, there appears a hypersecretion of the sebaceous glands. The orifice of each gland, filled with grayish-white sebaceous material, gives the skin a white stippled appearance. The surface of the skin over these areas is quite dry and rough to the touch. In certain places there is a small amount of sebaceous exudate attached to the plaques of dead epidermis, giving them the character of thin crusts. Along the lower of the areas on the neck and the upper margin of the areas on the forehead there is a line of intensified brownish pigmentation. The margins of these roughened areas is everywhere sharp and well defined. Symmetrically situated on each side of the neck, just below the lower margin of the roughened area, is a lenticular-shaped area of deeply reddened skin over which the superficial skin appears shriveled. These areas, the patient tells me, have appeared in the last few days and have the same appearance as the large areas when they were first noticed. The mucous membranes of the lips and conjunctivæ are pale but moist. The skin over the chin and the anterior portion of the neck appears pale and slightly tanned, but otherwise normal. Over the sternum, on the right side, there is a lozenge-shaped area, measuring about 5 by 2 cm.; beginning above at the sternoclavicular articulation and extending downward and inward to a level of the upper border of the third rib, there is a brownish pigmented area of desquamating epidermis. On the left there is a similar area but smaller. Symmetrically situated on each shoulder, over the acromial process, the spine of the scapula, and the infraspinous fossa, the skin is roughened, harsh, scaly, and covered with numerous patches of brownish, desquamating epidermis. The skin underlying all of these areas is pale, slightly thinned, and very dry and rough. There are also similar areas symmetrically situated over each deltoid and each triceps muscle. The skin over each olecranon process shows the same appearance as that noted above, i. e., a dry, harsh, desquamating superficial skin and a dry, pale, slightly thinned underlying skin; but after exposure to the sun for a few minutes, as was done when I attempted to photograph the patient's hands, the underlying skin assumed a rose-pink color, similar to that to be described over the hands and arms. The whole surface of both hands, especially the backs of the fingers and hands, and the lower one-third of both arms are everywhere quite rough and scaly. The skin of the dorsum of the hands, wrists and lower portion of the forearms is of a diffuse erythematous rose-pink color. Scattered over these areas are innumerable small and large patches and plaques of dried and desquamating epidermis. Along all the natural furrows of the hands and wrists, at the interphalangeal joints, and in between the fingers there are deep cracks. These cracks, the patient tells me, were much deeper a few weeks ago. They were also at that time more painful and tender and would often bleed after slight injury. Only a few of them now extend through the true skin and they are all healing rapidly. The skin over the sides of the fingers and the backs of several of the interphalangeal joints is markedly thickened and has the appearance of the surface of a saw file. The skin on the palms of the hands is pale but the superficial layer is dry and harsh to the touch. In places it may be peeled off in large thick plaques, leaving a comparatively normal subjacent skin. The line of separation between the affected and the non-affected skin is sharp and well defined.

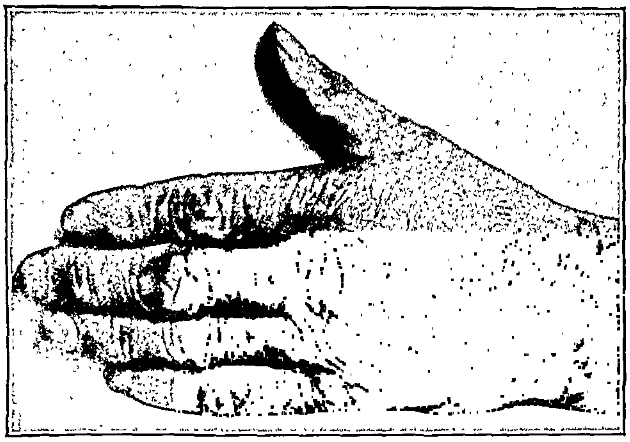
Fig. 2.—Hand of patient, showing the rough, cracked surface and the desquamation of the epidermis.

Mentality: The lady of the house tells me that the patient often has fits of extreme irritability when nothing can be done to please him and he is extremely fault-finding and quarrelsome. He shows complete orientation and can remember dates and events accurately but has to think over many of them for a considerable time. He can perform simple problems in arithmetic but with none of the accuracy or rapidity that might be expected of one who had once controlled a business house with a capital stock of $5,000, as he once did, according to his story. He complains of difficulty in buttoning his shirt and coat, but this is most probably due to the anesthesia produced by the drying and desquamation of the superficial skin over the tips of his fingers.

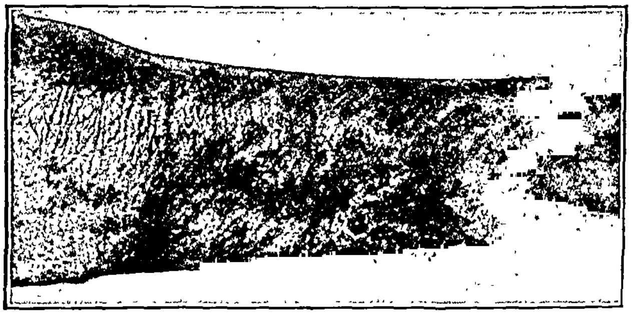
Fig. 3.—Wrist of patient, showing the pigmented border and the sharp line of demarcation between the normal and the unhealthy skin.

Diagnosis.—So far as I can interpret the cases and photographs of this affection that have been presented in the recent literature the group of symptoms and signs in this case point most strongly to its being pellagra. The signs and symptoms, reviewed briefly, are these: (1) A persistent diarrhea, presumably originating from the eating of corn-meal; (2) a subsequent erythema of certain symmetrically situated and well-defined areas of the skin, followed by slight pigmentation, desiccation and exfoliation, accompanied by severe occipital pain, vertigo, and dizziness; (3) a weak mentality and central nervous system. The fact that the patient is now recovering rapidly would place the case in the class called by Thayer[2] "a milder chronic and commonly recurrent malady."

Pellagra has been recently reported[2] from Maryland, and a number of cases have for some time been under observation in North Carolina;[1] accordingly, from a geographic or climatologic standpoint, there is no reason why a certain number of cases should not also exist in this state.

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[2] Thayer: Bull. Johns Hopkins Hosp., xx, No. 220.

The part played by corn-meal in the etiology of this malady is, of course, still a matter of conjecture. But it does seem to me a point worth consideration that this patient had noticed that the eating of corn-bread always disagreed with him, so much so that he avoided eating it as much as possible and, furthermore, attributed his present condition to this article of food. Moreover, his father and two of his brothers were similarly affected by a corn-meal diet and, likewise, always avoided it. None of them, however, so far as the patient has any knowledge, were ever affected with any cutaneous disturbances similar to his. It would manifestly be very interesting to know if any of the other cases that have been reported can furnish anything to corroborate or disprove the conclusions this case might tend to establish. I am aware, however, of the fact that a case has been reported in which the patient denied ever having eaten corn-bread, corn-flakes, or hominy.

If corn-meal and its consumption has any etiologic relation to pellagra and if wheat retains its present high price, we may certainly expect an increasing number of these cases to appear, particularly, in certain regions of our country where the people are exceedingly poor and where wheat is not a staple product.

PELLAGRA

ITS OCCURRENCE IN THE COOK COUNTY INSTITUTIONS

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In the following paper I wish to report the occurrence of pellagra in fourteen patients of the Cook County Institutions, Dunning, Ill. Eleven were inmates of the Hospital for the Insane, one of the Hospital for Consumptives and two of the Infirmary.

The first case was observed in August, 1908, when the diagnosis of pellagra was as yet not made. With the subsequent occurrence of three other cases presenting the same [illegible] course and fatal outcome, not being [illegible] occurrence of pellagra in the United States, we came to the conclusion that we were dealing with a clearly defined disease. A clue to the nature of these cases was offered in the description of pellagrous insanity in Bianchi's "Psychiatry." From the onset, the next case was thought to follow closely the description of Italian pellagra, but it was not until the inquiry of the South Carolina State Board of Health was addressed to us that the diagnosis of pellagra was definitely made.

In view of the prevalence of pellagra in the Southern states of North Carolina, South Carolina, Georgia, Alabama, Tennessee, etc., and in view of the fact that this disease existed in those states for twenty or thirty years before being properly diagnosed, the importance of its recognition in other parts of the United States is self-evident.

The reports of its occurrence in the Northern states, as accurately as can be determined from the literature and from replies to letters of inquiry concerning its prevalence addressed by C. F. Williams, Secretary, South Carolina State Board of Health, to the superintendents of the state hospitals in the United States, have been limited to the following:

Two cases reported by Gray of Utica, N. Y., and Tyler of Somerville, Mass., in 1864.

Two cases reported by Thayer of Baltimore, Md., in 1909.

One case in Pennsylvania.

Few cases in New York.

One or two cases in Maryland.

This relative infrequency of pellagra in the Northern states gives special importance to its occurrence in Illinois.

Following the numerous recent reports on this condition, the description of the disease and the report of the Cook County cases will be made as concise as possible.

Pellagra was probably first recognized in Spain in 1735, when it was described by G. Casal, who termed the condition mal de rosa. It appeared in Italy in 1750. In 1771 Frappoli called attention to this condition in Lombardy, where the peasants called it pell' agra. About 1810 Marzari called attention to the relation between maize and pellagra, and in 1844 Balardini first suggested that the disease might be due to the ingestion of diseased corn, which view has been confirmed and upheld by Lombroso.

The disease is prevalent in Roumania and Italy; in the latter there are about 100,000 patients, of which, according to Tuczek, 10 per cent. are mentally affected. In Roumania there are about 30,000 cases. The disease is also found in Spain and Upper Egypt, and cases are reported in Austria, Servia, Bulgaria, Africa, Mexico, South America, and lately in the United States.

The first to report pellagra in the United States were Gray of Utica, N. Y., and Tyler of Somerville, Mass., in 1864. Since that time there have been but few reports on this condition until recently. Since the report of Searcy of Alabama in 1907, there have been numerous contributions to the literature. Dr. C. H. Lavinder[1] has reported to the Surgeon-General a conservative estimate of 1,500 cases in the South since 1906.

Aside from the predisposing cause of alcoholism, previous illness, poor hygienic surroundings, poverty, venereal excess, etc., *it is the accepted opinion of most Italian students* that pellagra is a disease caused by the eating of spoiled maize, constituting an intoxication from the toxin produced by the growth of fungi in corn. There has lately been dissenting theories introduced, among the strongest of which is Sambon's, who presents numerous points against the maize theory. Suffice it to say that the etiology and the pathogenesis of pellagra is as yet an open question, but that corn may bear the same relation to pellagra as swamps do to malaria and yellow fever.

The pathology is not characteristic and may shortly be said to consist of changes of cachexia, such as wasting of the adipose and muscular tissue, fragilitas ossium, atrophy, fatty degeneration of the heart, liver, kidney and spleen, abnormal pigmentary deposits in the ganglionic cells, muscles of the heart, spleen and liver. Changes in the intestines consisting of atrophy of the muscular coat, hyperemia and ulceration.

The nervous system shows at times hyperemia, at other times anemia and edema, inflammatory changes in the coverings, degeneration in the lateral columns in the dorsal region and of the posterior columns in the cervical region. Lombroso says that the spinal cord changes remind one of incipient tabes.

The skin lesion shows (1) congestion, (2) thickening pigmentation, (3) atrophic thinning.

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[1] Lavinder, C. H.: Public Health Reports, June, 1909, xxiv, No. 25.

Of the symptoms, those belonging to the alimentary tract, skin and nervous system are the most prominent, but will here be but briefly considered. The disease usually begins with gastrointestinal disturbances, followed by erythema of the skin, and later by nervous manifestations. The gastrointestinal disturbance manifests itself by nausea, sometimes vomiting, ptyalism, loss of appetite and, most important, by diarrhea. Stomatitis is one of the most marked and constant symptoms. The mucous membrane is red, apthous ulcers develop and patches of macerated epithelium exfoliate, leaving a raw surface beneath.

The cutaneous symptoms are characteristic; the lesion consists essentially of an erythema appearing symmetrically and usually on the exposed parts of the body, especially the extensor surfaces, backs of the hands, forearms, neck, etc. It begins with redness and some puffiness. The redness becomes more cyanotic and is sharply demarcated. The surface of the skin becomes dry, harsh and scaly, exfoliating in flakes or scales. In some cases bullæ occur and with severe desquamation leave large denuded surfaces. The skin afterward assumes a dark color, from plum to brownish black; cracks and fissures form. After desquamation the skin appears thin and atrophied, with superficial wrinkles, at times having an appearance of striæ. The lesion is always sharply demarcated and on the hand usually leaves the distal phalanges uninvolved, ending at about the middle third of the forearm, seldom extending to the flexor surface.

Among the mental and nervous symptoms may be mentioned vertigo, neuralgia, partial paralysis, tetany-like conditions, tremors with variability of deep reflexes from increased to diminished and lost. Psychical manifestations usually take the form of melancholia, but maniacal attacks may occur.

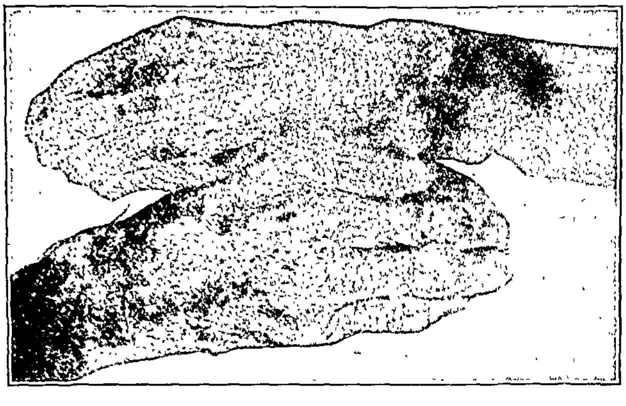

Fig. 1.—Hands of patient 13.

The disease is essentially of chronic nature, in some cases lasting for twenty years, interspersed with spring exacerbations; it is met with in acute and chronic conditions. The acute, which is most commonly observed in the United States, is often fatal, running its course in a few weeks, but probably should not be called "acute pellagra" inasmuch as it is possible that it is but an acute exacerbation of a chronic process.

In the diagnosis of this condition there may be considered the various grain and food poisonings, lichen and similar skin lesions, scurvy, leprosy and beriberi, etc.

The prognosis is usually serious and the mortality in the United States unusually high.

The treatment up to date has been of little avail. Removal of corn from the diet and substitution of a nutritious diet of medicinal remedies—all have been of small benefit. Arsenic, quinin, strychnin and iron have been used; of late atoxyl has been vaunted as a cure, but the probability is that it, too, is of little avail.

From the cases arising in this institution the following interesting facts may be determined:

The entire number was fourteen:

Females, 10; all insane.

Males, 4; 1 insane; 2 in the poorhouse, 1 in the hospital for tuberculosis.

The duration of the fatal cases averaged 37 days.

The duration in the remaining cases averaged 34 days.

The nativity was as follows:

United States	5
England	1
Ireland	3
Bulgaria	1
Germany	2
Denmark	1
Unknown	1

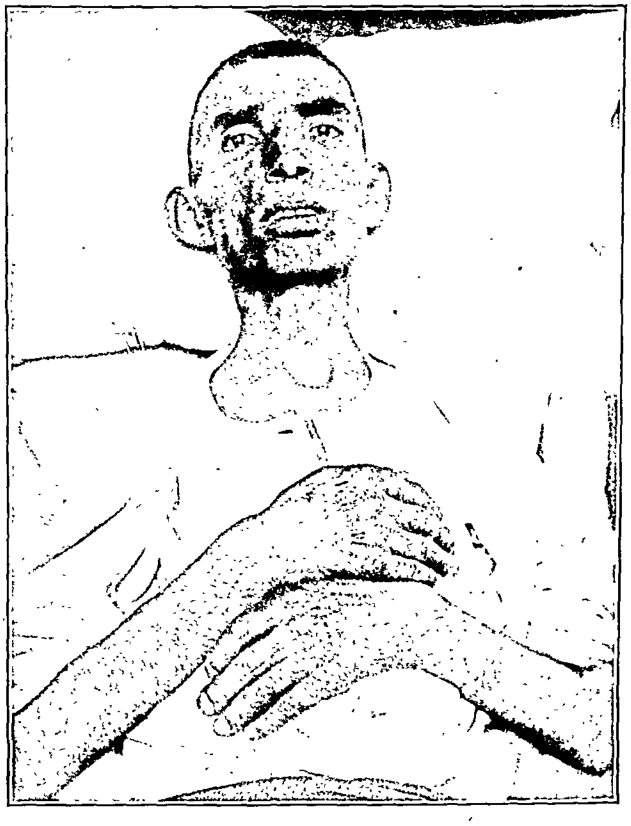

Fig. 2.—Patient 14.

Of those foreign, the Bulgarian was in this country six months. The others ranged from eight to thirty years. They had been confined in the institution from one to twelve years.

Their psychoses at time of admission were as follows:

Dementia paralytica	3
Alcoholic	1
Dementia præcox	2
Paranoia	3
Acute confusional	1
Melancholia	1

The symptomatology has been fairly uniform, all presenting the syndrome of stomatitis, dermatitis, and diarrhea. The cases had an onset with some malaise, indifference, and loss of appetite; they exhibited during the course some ptyalism, progressive weakness, choreiform movements, mental symptoms of depression to stupidity, and increasing dementia, refusal to eat, and in some cases dysarthria and dysphagia. Of the patients who died, one died of apoplectiform convulsions of dementia paralytica, one in a low muttering delirum, associated with stupor and choreiform movements, one of respiratory failure, one probably of pneumonic tuberculosis, and one of inanition of carcinoma of the stomach; the others of exhaustion.

The treatment in the first six fatal cases did not include arsenic. In the later cases arsenic was given hypodermically in the shape of Fowlers solution, omitting the compound tincture of lavender. The course in these later cases has not been so severe and the results are slightly promising.

The pathology of those cases in which we were able to obtain postmortem examinations will be described for the most part in gross as we have as yet not examined sufficiently fully the microscopic findings to report in this article.

Case 1.—L. F., female, admitted May 29, 1907, aged 38, born in the United States. Physical condition on admittance good. Psychosis, paranoia. Previous history negative. Mental status previous to onset of pellagra that of systematized delusions of persecution by spirits and hallucinations of hearing.

May 6, 1908: Patient developed a dermatitis of hands, face and neck. With the onset of the skin condition the patient became irritable and suspicious and failed physically rapidly.

Aug. 15, 1908: Skin had become brawny and thickened, covered with whitish scales. Patient had become untidy.

Aug. 24, 1908: Patient developed a slight endocarditis. Breath was fetid; mouth and teeth well covered with scaly layer of putrid material. Patient had a slight evening fever; died of acute endocarditis.

Case 2.—A. C., female, admitted 1903, aged 34, born in the United States. Former admission in 1902. Physical condition on admission good. Psychosis paranoia. Mental state that of systematized delusions and poor emotional control; vicious and revengeful. Until 1908 condition remained unchanged.

Oct. 23, 1908: Patient had been failing lately and had developed frequent attacks of diarrhea. A scaly condition of the hands had appeared. Patient was losing weight; had become untidy and greatly demented.

Oct. 29, 1908: Dermatitis was now well marked, symmetrical, hard, reddened and scaly, having sharply defined borders, appearing on the backs of the hands and neck. Patient refused food and had a severe stomatitis.

After presenting a progressive course of increasing weakness, diarrhea, stomatitis, with increasing dementia and untidiness, patient died on Nov. 19, 1908, of exhaustion.

Case 3.—M. R., female, admitted May 24, 1906, aged 32, born in Ireland; physically, suffering with chorea; otherwise in good condition. Psychosis acute confusional insanity. Mental condition that of restless confusion.

Sept. 28, 1908: Patient had been failing in flesh lately; had become very destructive and much demented. Skin showed a dermatitis of hands and face which was symmetrical in distribution. After running a course of increasing weakness with diarrhea and dermatitis, patient died on Oct. 10, 1908, of exhaustion.

Case 4.—M. A., female, admitted April 9, 1908, aged 45, born in the United States. Physical condition that of paresis. Psychosis dementia paralytica.

May 26, 1908: Patient failing mentally and physically; was generally weak, dull and apathetic.

Oct. 27, 1908: Patient had many stuporous attacks lately; had become very untidy. A symmetrical dermatitis developed on dorsal surfaces of the hands, which were hardened, pigmented and fissured. The face showed a marked seborrheic condition; a vaginitis was likewise present.

Nov. 11, 1908: Patient had developed a severe diarrhea and stomatitis; had irregularly occurring attacks of vomiting and was gradually failing.

Nov. 29, 1908: Patient had an apoplectiform convulsion of the right side; developed edema of the lungs and died.

Case 5.—M. F., female, admitted March 1, 1897, born in Ireland. Physical condition on admission, good. Psychosis melancholia. History negative except for the patient having used a great amount of alcohol.

December, 1905: Physical condition good. Patient had numerous delusions of persecution.

Feb. 27, 1909: Patient had been failing in health lately and had become rather unsteady in her gait.

March 20, 1909: Patient had developed a dermatitis of both hands, the dorsal surfaces of which were symmetrically hardened and fissured. Patient was becoming more demented.

March 27, 1909: Patient was in a semistuporous condition; had marked dysarthria and dysphagia, marked stomatitis, teeth covered with sordes. Ptyalism was marked. Patient exhibited incoordinate movements of upper extremities and an inability to stand. There were no paralyses; knee-jerks were absent; plantar reflexes normal, abdominal reflexes absent. Pupils were equal; reacted to light and accommodation. Electrical reactions were unchanged.

March 31, 1909: Patient had been having a slight evening fever with rapid pulse which was compressible and irregular.

April 14, 1909: Patient developed a diarrhea. Dermatitis was more marked; the skin was fissured, desquamation taking place, exposing raw red surfaces.

April 19, 1909: Patient, after having failed rapidly and exhibiting marked incoordinate movements of arms and legs, died.

Case 6.—L. C., female, born in United States, aged 40, admitted May, 1904. Psychosis dementia præcox. Previous history negative. Physical condition on entrance negative. Psychically a low grade idiot.

January, 1908: Patient in fair physical condition.

June 7, 1909: For the past two weeks patient had developed a dermatitis of both hands, face and neck, which began as an erythema, becoming hardened, scaling, leaving the exposed surface moist. The lesion was symmetrical, involving the dorsal surfaces of the hands and wrists and a butterfly-like involvement of the face spreading from the nose and one patch over each sternocleidomastoid. The patient was in poor general condition; had a general adenopathy. Heart and lungs negative. Nystagmus on lateral movements of the eyes. A double Oppenheim and Gordon but no Babinski. Knee-jerks were increased; a double ankle-clonus and knee-clonus were present. Active movements of both upper and lower extremities were negative. Passive movements were negative except for a double Kernig's sign.

June 9, 1908: Patient, after lying in a semicomatose condition for the past two days, died of respiratory failure, after having once been resuscitated by artificial respiration.

Case 7.—E. S., female, born in Germany, admitted October, 1908, aged 28. Physical condition on admission good. Psychosis dementia præcox. General mental status previous to onset of pellagra that of depression, refusal to eat, and fear.

June, 1909: Patient had become more demented and was fed with great difficulty. Physical condition about the same.

July 5, 1909: Patient had developed a symmetrical dermatitis of the dorsums of both hands and wrists. The lesion over the hands consisted of a sharply demarcated thickening and redness and scaling, leaving a glazed surface exposed. There was a similar lesion over the back of the neck. A moderate stomatitis was present, consisting of excoriations with the presence of several small whitish ulcerations. The epithelium was piled up and desquamating. The tongue was red and glazed, the papillæ were prominent. Heart and lungs were negative. Patient had slight diarrhea and was very weak. Mentally, she was much depressed and cried a great deal.

July 12, 1909: Patient had during the past week been failing rapidly. The stomatitis was worse, the dermatitis stationary. Ptyalism was marked and dysphagia and dysarthria were present. Patient complained of burning pain extending from her throat to her stomach; had a slight evening fever.

Aug. 1, 1908: Patient was beginning to improve; stomatitis was less severe. The slight diarrhea that was present had disappeared and the skin lesion was fading away.

August, 1909: Patient continued to improve; diarrhea had disappeared, stomatitis subsided and patient was much more cheerful, taking nourishment willingly.

Case 8.—F. S., female, born in the United States, admitted June, 1908; aged 30; married. Physical condition on admission good. Psychosis *dementia paralytica.*

June, 1909: Patient complained of pain in the stomach and loss of appetite; had a slight redness of the skin of the hands.

July, 1909: Patient had a symmetrical dermatitis of both hands, one patch on each side of the neck, moderate stomatitis and a slight diarrhea. After running a slight course of diarrhea, with progressing weakness, she began to improve, the depression being replaced by exaltation, the skin lesion disappearing and the stomatitis subsiding.

Case 9.—M. O'D., female, admitted April, 1909, aged 32, born in England. Physical condition on admission poor; marked anemia. Psychical diagnosis, dementia paralytica. General mental condition before onset of pellagra, marked depression, confusion and emotional instability.

July 1, 1909: Patient had become very resistive; refused food, had failed physically.

July 5, 1909: Patient had developed a symmetrical dermatitis of both hands and wrists; a similar condition was present on the sides of the neck. There was a marked stomatitis; slight diarrhea was present. Knee-jerks were exaggerated. Patient refused food and had to be tube-fed. Lungs showed slight dulness in both apices with roughened breath sounds but no râles.

July 18, 1909: Patient was rapidly failing. Stomatitis was very severe. The skin lesion was, however, becoming less marked. All the glands were enlarged. The diarrhea had subsided. Patient remained resistive and refused food.

July 29, 1909: After having progressively failed, despite the improvement in the condition of the skin and mouth, patient had developed signs of a pneumonic infiltration of the right lung with high temperature, rapid respiration and rapid weak pulse, and died on Aug. 1, 1909.

Postmortem Examination.—An extremely emaciated woman. Inguinal glands enlarged; abdominal cavity free from fluid; adhesions surrounding gall-bladder extending to the pylorus, duodenum and transverse colon; adhesions between spleen and parietal peritoneum and between uterus and rectum. Left pleural cavity free from adhesions; right pleura firmly adherent to lung; pericardial cavity contained 15 c.c. of clear fluid; left heart contained a goose-fat clot. Heart practically negative. Lungs: Right upper lobe showed solidification, with old cavity formation. The wall of this was in some places gangrenous and in others cheesy; and the remainder of the lobe contained a large amount of fibrous tissue. The middle lobe and lower lobe showed marked consolidation. The left lung was emphysematous and contained patches of fibrosis. Liver showed some fatty changes. An accessory spleen was present; spleen showed scattered hemorrhage spots. Pancreas was negative. Kidneys were very pale. 260 gm.; glomeruli white and glistening. Stellate veins showed prominently; pyramids pale with considerable fibrous tissue. Aorta showed several ulcerated plaques in descending portion of the arch. Small intestines showed Peyer's patches to be rather plain. In the large intestine the mucosa was injected, otherwise negative. The mesenteric glands were enlarged. Left ovary cystic. Dura mater negative. Small amount of cerebrospinal fluid; no granulations in the fourth ventricle; very little edema of the pia mater. Along the posterior border of the dura from the third dorsal to the mid-lumbar was collection of half-organized material, yellowish in color, with several small hemorrhage spots.

Case 10.—M. W., female, admitted March 8, 1908, aged 46, married, born in Germany. Physical condition on admission fair. Psychosis paranoia. History negative.

Dec. 9, 1908: Patient showed on examination a partial heart-block and an infiltration of both apices. The sputum, however, did not show the presence of tubercle bacilli.

Aug. 6, 1909: Patient developed a symmetrical dermatitis of both hands, with the onset of malaise, loss of appetite and stomatitis. Patient also had a slight diarrhea.

Aug. 13, 1909: The patient was greatly improved. The skin lesion was clearing up and the stomatitis had disappeared.

Case 11.—J. McC., male, admitted June 1, 1905, aged 40, born in Ireland; lived in the United States for twenty-two years. Physical condition on admission good. Psychosis alcoholic insanity. History negative, except for being an excessive alcohol user and having had caisson disease several times. Patient after admittance had an annual attack of diarrhea, not of great severity and lasting but a short time.

July 29, 1909: Following a slight attack of diarrhea, patient developed a slight redness and scaling over the knuckles of both hands. This lesion extended over the dorsal surfaces of both hands and, although not involving a great area, the distribution and its typical appearance left no doubt as to the diagnosis of pellagra.

Aug. 15, 1909: Patient was much better, the skin lesion was disappearing and the diarrhea had subsided.

Case 12.—W. G., male, patient of the poorhouse, admitted 1902, aged 60, born in Denmark. Previous history negative.

May, 1909: Patient developed diarrhea which lasted off and on until July 15 when he noticed a scaling of the backs of both hands. For the following three weeks the diarrhea was of very severe nature; the dermatitis increased in severity and stomatitis developed.

Aug. 8, 1909: The dermatitis was symmetrical, involving the dorsal surfaces of both hands and wrists; there was scaling and thickening. The diarrhea was not so severe and patient was comfortable.

Aug. 21, 1909: Patient was up out of bed; the dermatitis had disappeared, leaving a slightly pigmented, scaly skin; diarrhea was absent.

Case 13.—F. B., male, poorhouse patient, admitted Aug. 11, 1909, in a semicomatose condition, suffering with pellagra; aged 65; painter by occupation. Nativity unknown.

When admitted patient had a symmetrical involvement of both hands and arms by a dermatitis characterized by a brawny induration and redness with some scaling. The patient stated that previous to his admission he suffered with loss of appetite and abdominal pains. Since that time he had had loose but infrequent bowel movements, is failing rapidly and is in a very clouded state of mind. Besides the lesion on his hands there is a slight abrasion of skin over both ankles. He has marked rigidity in both upper extremities and his movements are decidely incoordinate. Knee-jerks are exaggerated, elbow-jerks and wrist-jerks are exaggerated.

Case 14.—S. J., male, patient in the Hospital for Consumptives; Bulgarian; in the United States seven months; admitted to the institution June 18, 1909; aged 38. About three weeks after admission to the hospital it was noticed that the patient had a symmetrical dermatitis of the dorsal surfaces of both hands and wrists which were red, rough and swollen. There was also present a well-marked stomatitis and salivation. The tongue was red and the papillæ were prominent. The patient was suffering from carcinoma of the stomach and showed an abdominal scar from an operation. He could not retain his food and was rapidly failing.

He died Aug. 3, 1909, of inanition from carcinoma of the stomach.

Postmortem Examination.—This showed cyanotic induration of both lungs with areas of bronchopneumonia. The stomach, large and small intestines and the spleen and liver were matted together in a mass by old and very firm adhesions. When these were cut through, there was found a large medullary carcinoma of the stomach involving the larger part of the anterior and posterior surfaces and the curvatures of the stomach, and surrounding and almost occluding the pylorus. The liver, kidneys and intestines, heart and spleen were negative. The cerebrospinal system was likewise negative to the naked eye.

In conclusion, it may be proper to mention a few of the differences pointed out by Babcock[2] between the pellagra of the United States and the Italian pellagra; in the United States the notable points are:

1. Overwhelming number of women attacked.
2. Great mortality of the disease.
3. Invasion of unexposed portions of the body by the dermatitis.

Recognizing the futility of treatment and the prevalence and apparent progression of pellagra in the United States and realizing the enormous food value of corn, it can readily be seen that the subject is one of greatest importance and deserves the deepest study and research. I am indebted to much of the recent literature on this subject for material for this report. A complete bibliography of the literature in the United States may be found in the Public Health Report of June 18, 1909.

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[2] Babcock, J. W.: Jour. South Carolina Med. Assn., February, 1908, Vol. iv.

I am indebted to Dr. Hamill and Dr. Moore for their *kindness in permitting me to use their cases.*

LAKE MICHIGAN WATER FOR DRINKING PURPOSES*

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Lake Michigan occupies a hole scooped out by glacial ice. It is not a natural valley, and in consequence the rivers which drain into it are short and discharge very little water. This is true of the south end and the west shore. On the east shore the St. Joseph, Grand, Muskegon and Manistee are fairly long and carry a fair volume of water. The first two of these drain rather populous areas and their waters reach the lake quite polluted. The banks are seldom sloping and the drainage of storm water does not run directly into the lake except for the distance of a few feet back from the water-line. These factors protect the lake against pollution and therefore argue for the use of its waters for drinking. It is a soft, fresh water and cold.

The other side is this: Counting Chicago, 2,000,000 people either live on the shores or so near thereto that their sewage reaches the lake after a short flow. Just now this population is increasing at the rate of 100,000 a year. In no single instance is any of this sewage properly treated before being discharged and in but few instances is it treated at all.

The tonnage of Lake Michigan shipping is very heavy. The ships carry both freight and passengers. The excursion business between Chicago, Milwaukee, St. Joseph, Benton Harbor and Michigan City is very heavy. A single ship will carry from a few hundred to a few thousand passengers, and the water intakes are usually steering points. Near the water intakes are the points of maximum discharge of feces and urine, as none of these ships have holding devices, or rules as to the closing of closets, and the zones around the intakes are not restricted navigation zones. These waters are more dangerous than salt waters, in that the same water is used for sewage, navigation and drinking purposes. They are less dangerous than ocean waters in that we do not have the shore and wharf pollution action of the tides. The soft waters differ from the salt waters in their action on sewage and different trade wastes. Our fresh water *per se* has no restraining action on the growth of bacteria nor does it modify the chemistry of materials deposited therein.

The Chicago sewage from the south line of Evanston to Eighty-fifth Street on the south now flows into the drainage canal and thence ultimately into the Gulf of Mexico. South of Eighty-fifth Street we now have about 150,000 people whose sewage flows into the Calumet River and then after a short flow into the lake. This sewage is not purified before it is discharged into the river. The same stream also discharges the sewage of Hammond, Ind. (20,000); Whiting, Ind. (10,000); East Chicago and Indiana Harbor (20,000); Gary, Ind. (10,000). On account of the rapid growth of these just-over-the-line sources of contamination, it is safe to say that within five years the polluting popoulation will be 200,000. If we add to that the Calumet Valley population in Illinois, in five years we have 400,000 people. For all of these reasons raw sewage must be kept out of *Lake Michigan.*

The normal water of Lake Michigan twenty miles from shore contains eight bacteria per c.c. and no colon bacilli. There are no uniform currents in the south end of Lake Michigan. The surface current always flows with the wind. A flow of five to seven miles is not enough to purify a large volume of sewage. The time required for a flow of this distance is not enough for purification. The oxygen content of the water is not high enough to purify in this length of time. The saprophytic bacteria are less and less active as the medium is diluted with fresh water. Though a sewage stream holds together quite definitely for three to five miles, wave action limits the efficacy of sedimentation. There is not much fauna and still less flora in these waters.

Generally speaking, these soils of the communities just mentioned are underlaid by a deep stratum of strong sulphosaline water unfit for general drinking purposes. The shallower soil strata do not yield water enough to sustain large populations. The streams to the west and south are altogether insufficient for water purposes. The streams on the east shore are highly polluted. There are no mountains or other high places even fairly satisfactory for water reserve purposes. The waters of Lake Michigan must furnish the drinking-water for these large and growing cities. Therefore the waters must be kept pure.

Chicago has had a typhoid death rate of over 175 per 100,000. Last year it fell to 15.5. That was the lowest in the history of the city. The first five months of this year are lower than the corresponding portion of last year or any other year. The typhoid death rate of the other Lake Michigan cities is high—higher than the American average. The Milwaukee average for five years (1904-1908) was 21.9 per 100,000; Michigan City goes to 40; Hammond, Whiting, East Chicago and Gary range around 70, and some years 90 to 140. These are illustrations of averages around the lake. Escanaba, Grand Rapids, in Michigan, and Sheboygan in Wisconsin average quite high. Waukegan and Racine are far above the average. Therefore the condition is not remote and to be dreamed about. It is immediate and to be acted on.

Lake Michigan is the common charge of the national government, the state governments of Wisconsin, Illinois, Indiana, Michigan, and also of the large centers of population located on the shores.

Acting on a conception of these responsibilities in May of 1908 the Mayor of Chicago asked for the appointment of members of the Lake Michigan Water Commission on the following basis:

	Representatives.
The Public Health and Marine-Hospital Service	1
The Engineering Corps of the War Department	1
The State of Wisconsin	1
Milwaukee	2
Illinois	1
Chicago	3
Indiana	1
Indiana cities, located on Lake Michigan	1
Michigan	1
Grand Rapids, Mich.	1

The commission is now composed of Major Judson, Mr. Hill and Professor Sackett, engineers; Professors

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Bartow and Barnard, state chemists working especially on water surveys; Dr. Gehrmann, bacteriologist; Dr. Young, Dr. Bading, Dr. Sutherland, Dr. Shumway, Dr. Evans, national, state and municipal health officers; and Mr. Becker, ex-mayor of Milwaukee. Lack of appropriations in Michigan have made it necessary for Dr. Shumway to withdraw.

Right speedily the importance of this matter impressed itself on the Chicago Association of Commerce. They called a meeting of representatives of the city governments and business bodies of the various towns located on or near the lake. Fifty-six cities responded. An organization was perfected. The object of this organization is to secure popular and governmental support for the policies advocated by the commission. The first body is for research; the last is to make effective the work of the first. This last organization is the Lake Michigan Sanitary Association. Out of these two organizations have grown two other loose organizations. The towns of northern Indiana have had joint meetings of their city governments and business bodies, first, to advance the study of their sewage disposals and water supplies, and, later to find remedies or a remedy, for up to now, at least, all of the towns are joining in a single movement. The towns north of Chicago, to wit, Evanston, Wilmette, Kenilworth, Winnetka, Glencoe, Highland Park, Lake Forest, Lake Bluff, North Chicago and Waukegan have united to study their situation.

The method of the Lake Michigan Water Commission is to hold about four meetings a year to which reports will be made. Up to now the meetings have been devoted largely to the study of existing conditions. We are just beginning to discuss remedies. The investigations are done by the state and municipal boards of health. Four meetings have been held. The following are the subjects treated in the first volume of reports:[1]

Call for the Commission.
  Letter of Dr. Evans to Mayor Busse.
  Letter of Mayor Busse to the Chicago City Council.
  Action of the Chicago City Council.
  Letter of Mayor Busse to Administrative Officers.
Minutes of the meeting of April 18, 1908, at Chicago, Ill.
Articles of organization.
Minutes of the meeting of May 27, 1908, at Grand Rapids, Mich.
Minutes of the meeting of Sept. 10, 1908, at Milwaukee.
Minutes of the meeting of Jan. 23, 1909, at Indiana Harbor, Ind.
Report on Water Conditions in Michigan, by Dr. Frank W. Shumway.
Report on Water Conditions in Indiana, by Dr. W. A. Evans.
Report on Water Conditions in Wisconsin, by Dr. Q. O. Sutherland.
Report on Water Conditions in Illinois, by Dr. Edward Bartow.
"Currents in Lake Michigan," by Major W. V. Judson.
Extracts from paper by J. A. Amyot.
"Sewage Disposal Problems," by Lederer and Hill.
"Investigation of a Typhoid-Fever Epidemic at Sheboygan, Wis.," by J. T. B. Bowlles.
"Methods of Analysis," edited by Edward Bartow.
Report of Conditions of the Chicago City Water-Supply, by Dr. J. F. Biehn.
Report of Milwaukee City Water-Supply, by W. V. Judson.
"Control of Shipping," by Dr. G. B. Young.
"The Character of the Water-Supply of Michigan City," by H. E. Barnard and J. H. Brewster.
"The Sanitary Condition of the Southern End of Lake Michigan Border—Lake County," by H. E. Barnard and J. H. Brewster.
Report on State Control of Waterways, by Dr. Frank W. Shumway.
Report on a Filtration Plant at the Union Stock Yards, Chicago, by Dr. Adolph Gehrmann.

The investigations of existing conditions relates to:

1. The typhoid death rate (mortality and morbidity).
2. The diarrheal rate in adults other than tuberculous diarrheas (mortality, but principally morbidity).
3. The degree of organic pollution of the waters.
    - (a) In the taps.
    - (b) At the intakes.
    - (c) At various points in the lake.
4. The degree of bacterial pollution at
    - (a) General; (b) colon.
        - (a) The taps.
        - (b) The intakes.
        - (c) Various points in the lake.
5. The location of the intakes.
6. The location of the sewer outfalls, especially in relation to the water intakes.
7. The direction of Lake Michigan currents.
8. The purifying power of Lake Michigan water *in situ* and in the mains.

The commission is just beginning to study methods of sewage purification and the problems of the cities.

As usual Indiana leads. The report from Indiana is the most comprehensive and convincing of which I have any knowledge. The reports from Chicago are complete, but the report from the rest of the state is fragmentary. The Wisconsin reports are next in completeness. Michigan data are least complete. Few Michigan towns get their water out of the lake; many put their sewage in and several take their water from bodies of water that are practically portions of the lake.

Studies made by these cooperating bodies have demonstrated several things. Other things seem probable though not proved. As a result of study of the conditions largely gained from the work of this commission, I hold the following opinions:

1. Lake Michigan water twenty miles away from large sewer outfalls is good, safe drinking-water and excellent in quality.

2. On account of the large volume of water, its low chemical content, and its temperature, it will take care of shore population much in excess of that now existing.

3. The present conditions of the shore waters near all sewered towns are such as to render their use for drinking purposes dangerous.

4. South of an east-and-west line passing through Seventy-fifth Street in Chicago to a similar point in Indiana (an area of nearly 100 square miles) the water is either all so polluted or so frequently and so easily made so that no city should take its water-supply from it and no boat should be allowed to fill its drinking-water tanks from it.

5. There are no constant currents in Lake Michigan.

6. The currents in Lake Michigan are due to the direction of the wind. There is always a surface current with the wind and usually a deep current opposite to the direction of the wind.

7. Irregularities in shore contour, for example, bays or promontories, at times will operate to protect an intake; at other times will have no influence on the water at the intake; at times will operate to foul such water, according to the direction of the wind. For example, a bay protected by a natural or artificial promontory on the north, with the wind in one direction, will have bad water pushed out and good water pushed in; when the wind is in another direction the bad water would eddy around the intake.

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[1] Now ready for distribution.

8. In the Lake Michigan area there are no prevailing winds.

9. In Lake Michigan there are no prevailing currents.

10. As storms habitually stir Lake Michigan to a depth of 20 feet, frequently stir it to a depth of 40 feet and occasionally stir it to 60 feet, purification by sedimentation is not effective in water less than 50 feet deep in Lake Michigan.

11. As the highly effective saprophytes are not abundant in Lake Michigan, purification is by oxidation, dilution and sedimentation.

12. Therefore the rapidity of purification is not as great as it is in fouler waters with a high saprophytic bacterial count.

13. A flow of seven miles in Lake Michigan is not sufficient for the purification of a massive amount of sewage.

14. With a fairly high and steady wind sewage streams retain quite definite boundaries for several miles.

15. A flow of one mile in the lake is of greater purifying power than a like flow in a stream because of (a) the time required; (b) dilution. It is of lesser power because of (a) the less saprophytic bacterial count; (b) less oxygen absorption. Weighing both equations, one mile is more efficient in the lake, but a forty-mile requirement of river flow is not equaled by a one-mile lake flow.

16. Massive amounts of sewage containing much floating material will sometimes hold together in a definite lake stream for twenty miles.

17. No town should place its water intakes within 1 mile of the sewer outfall of a town of 2,000 inhabitants. This distance should increase *pari passu* with the number of inhabitants using the discharging sewers, other things being equal.

18. Dumping should not be allowed in water less than sixty feet deep in Lake Michigan.

19. Government navigation regulations should keep ships a certain distance from water intakes at all times. They should specify holding provisions, with dumping control on all streams. They should specify zones from which ship drinking-water should not be taken in all bodies of fresh water.

20. Properly controlled, Lake Michigan water will always be safe for drinking purposes.

21. Under present conditions no town is justified in using Lake Michigan water from a point nearer shore than one mile.

22. Large cities emptying their raw sewage into the lake should not take their water nearer any sewer outfall than ten miles.

23. What these states and cities bordering on Lake Michigan are trying to do should be done by the national government for the chain of lakes.

Growth of the Child.—Suitable conditions are absolutely essential to healthy growth, and are more important during infancy and childhood than even at any later period. We must allow time for growth, and not crowd back into childhood exercises suited only to more mature bodies and organs. The mental exercise which is play for the boy may be labor for the young child, and child-labor should be prohibited in our schools. Finally, organs grow and develop successively; first the visceral, vital organs; then the muscles; last of all the higher centers of thought and feeling in the brain. Our systems of education must conform to this order. That system is best and wisest which furnishes the conditions and stimuli needed at each stage to promote the growth or development of the organs most rapidly advancing during that epoch.—J. M. Tyler, in *Hygiene and Physical Education.*

THE ECONOMIC VALUE OF PROTECTING THE WATER-SUPPLIES *

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To conserve watercourses means to retain these resources in their natural condition, or in that condition which gives the greatest safety and utility to man. The pollution of a water-suppply is as unnecessary as the wanton butchering of wild animals or the reckless destruction of a forest; in either case the resource is partially or wholly obliterated, and the waste tends to destroy the available livelihood and comforts of the people. A polluted watercourse is not a natural stream.

Municipalities are not the only factors which are accountable for the pollution of public water-supplies. The influence of small villages, individual homes and factories on stream contamination needs more attention. The cities with more people and factories to a given area produce more pollution than the towns with their more numerous cesspools, yet the bacterial contamination is apt to be relatively less with a city, owing to the bactericidal activity of many factory wastes. The presence of disinfectant chemicals in sewage or in drinking-water is strictly objectionable if the sewage or water is to be subjected to filtration. Although in rural districts the more numerous privies cause relatively a less amount of direct stream contamination, the danger of pollution from individual houses can not be overlooked. That there is a great danger from rural communities is attested by the large epidemics which have been traced to individual cases of pollution. In the typhoid epidemics at Butler, Plymouth, New Haven, Nanticoke and Reading there were collectively 3,929 cases, with 361 deaths, resulting from the careless treatment of the discharges of but five individual patients.

The story of damage from epidemics resulting from polluted water is too well known to require repetition, save perhaps for an enumeration of the ways in which the pollution may occur, that the individual contaminating points may be sought and the danger averted. Epidemics from water-supplies result from contamination by various factors: the use of a raw water into which is continually discharged the sewage of other towns, as occurred at Pittsburg, Lawrence and Philadelphia; a city drinking the water of a lake which has become its own cesspool, as did Chicago, Cleveland and Burlington; pollution of the water by the wastes of individual houses, institutions or factories, as at Plymouth, and pollution from privies situated directly over the streams or on the banks, as at Ithaca, or indirect pollution of the stream after the offending matter has been deposited on the surface of the ground or in wells, later gaining access to the watercourse by the washing of rain or seepage through ground seams. In some instances epidemics originate through criminal thoughtlessness when a town has been already supplied with pure or purified water. A water-pipe laid through a polluted pond may become sufficiently disjointed to permit admission by the infected water, as occurred at Baraboo, Wis., and Palmerton, Pa. The admission of polluted water to a pure city supply at any time is inexcusable. Epidemics have originated at times of fire (Lawrence), through failure of valves to operate (Wilkinsburg, Pa.), when the ordinary supply was judged to be insufficient and no public warning was given of the substitution (Newburyport), or when polluted water was furnished temporarily while the filter-plant was undergoing repair (Lowell, Mass., 1902, Brewer, Poughkeepsie, N. Y., and Millinocket, Me.). Various public wells becoming infected through ground seams have caused epidemics of typhoid fever, as at Trenton, Newport and Mount Savage, Md.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

THE VALUE OF HUMAN LIFE

Various attempts have been made to determine the exact financial loss occasioned by the invasion of an epidemic or a polluted water-supply. It is possible to estimate the approximate saving of life through safeguarding the public interests; the approximate number of lives saved by the installation of a water filtration system may be easy. But to put on the credit column of the ledger page for comparison with the debit of the filtration plant the actual value of the lives saved, with the dollars saved in wages of the deceased people, is an utter impossibility. All attempts to place an exact cash loss caused by any fatal calamity have and must result in failure. In estimating the loss from a fire the cost of rebuilding and probable loss from earning capacity during the period of construction can be roughly figured, but the other factors, inconvenience, effect on prestige, result of public attention, loss of unforeseen opportunities, etc., can not be surmised. Equivalent conditions affect the estimation of the value of human life and the cost of sickness. In estimating the financial loss during the illness of an individual or number of individuals the cash loss to that individual may be computed, but not the loss to his employer. Much less can there be calculated the wage loss occurring through death. It is obviously impossible to estimate how long a man's income will continue, to what extent it will fluctuate, of what value that income will be to himself and his dependents, and how much of that income will be inherited by others. Rochard says that the economic value of an individual "is what he has cost his family, the community or the state for his living, development and education." To accept such a standard would be to declare that Abraham Lincoln was worthless.

A man's value is not to be estimated by his income or bank account alone, but by his real influence, morally, mentally and physically on his family and the people at large. The man who spends much of his spare time at home and gives much comfort to his family is obviously of more value than he who does little for his wife and children except to pay the rent and grocery bills; he who influences his own or other peoples' children to improve in morality, industry and citizenship is greater than he who has little regard for such activity; the man who actually earns his money is of more value than he who inherits his sustenance, yet their wills may dispose of similar estates. These conditions are but a few of the many which must be considered when estimating the true value of a human life, and plainly show the absurdity of attempting to put on paper the loss caused by death. The human life is valued at $25 by Galton, $219 by Rochard, $776 (159 pounds) by Farr, $976 (200 pounds) by Chadwick, $2,000 by E. F. Smith and $5,000 by some others. French soldiers are rated at $1,200. The average price of slaves sold in America was about $1,000. Such estimates are obviously too low for any practical purpose. The legal value of life is almost entirely dependent on the force of the plea of the counsel.

Another error in estimating the human value is in the choice of incidental expenses. For instance, Wing, in attempting a concrete study of the cost of typhoid fever to Pittsburg, added into the expense account the extra cost of milk and ice used for the patients, neglecting to subtract the money saved by restricting the diet. Funeral expenses, $3,186 for 26 deaths, were included—an obvious mistake, because they are necessary expenses which must come at some time. Should it become necessary, as it unfortunately frequently is, to use concrete figures to convince lawmakers and the public of the benefit to be derived by protecting the public health, recourse must be had to the financial loss through the prevalence of sickness, including a list of the number of deaths, with a brief on the general loss to the public and private citizens occasioned by the mortality.

In reaching the estimate of the financial loss occasioned by sickness the sum total of the individual cases must be considered. In this there should be included only the value of the medical attendance, cost of nursing, extra servants, hospital expenses, medicines, special apparatus or appliances bought, extra ice and difference in cost of food supply, to which is added the loss of wages calculated up to the time when the patient attains his original vigor and wage-earning capacity. To this money loss, credited to those that recover, is appended the simple statement of the number of deaths, without attempting to express their loss in dollars. For a very rough working hypothesis of the financial loss, if this be required, the loss may be estimated as double the wages lost through illness and convalescence, with a minimum average of $3 a day, added to a bald statement of the number of lives sacrificed. Those who control means for the safeguarding of human life should use, if need be, for the value of life the personal standard placed on their own families. It is, therefore, very misleading to attempt to employ any set figure as the value of human life.

POLLUTION BY FACTORY WASTES

Manufacturing plants are not a danger from their sewage alone, but their liquid wastes when discharged into watercourses are undoubtedly a damage which needs correcting. Factory wastes are not only a menace to the individuals consuming the water, but are a detriment to other mills and are destructive to fish. By discharging offensive wastes into streams, ponds or lakes the manufacturer disobeys the clearly enunciated, universal law of water rights which commands that factories must allow the water leaving their mills to be as pure as when they receive it; the riparian manufacturing proprietor may use the water in any manner as long as he does not interfere with the purity of the stream or with the rights of others below him. Because of this factory pollution there has resulted much litigation; old established mills have been badly affected by the new factories up-stream; paper mills have been ruined and others forced to seek new quarters. In Rhode Island a bleachery obtained an injunction against a wool-washing concern, with the result that now the discharged water is subjected to settling basins, treated with sulphuric acid, the extracted grease collected in bags, pressed hot and made into dégras for finishing leather. The effluent is subsequently run through a sand filter. Woolen-mills and print-works have obtained similar injunctions against other wool-washing works up-stream, and many paper-mills have been rightfully sued.

Chlorinated lime from paper or cotton bleacheries when discharged into a stream grossly polluted by sewage will act as a partial purifier through its disinfectant effect, but the quantities added are in such excess of what is needed that a poisoning of the water results. The indications are that chlorinated lime can not serve as a coagulant in the manner of slacked lime, and will, therefore, not settle to the bottom of a river. Leighton asserts that acid coal mine wastes are, bacteriologically, a benefit in the Susquehanna River.

POLLUTION DESTROYS FISH

The scarcity of food fish is largely due to the pollution of the streams. Some coarse fish apparently thrive near a sewer's mouth, but may be rapidly killed by a discharge of sulphuric acid or other waste. The destruction of fish by sewage-laden water is due to bacterial contamination, to various salts or to gases of decomposition, ammonia and sulphuretted hydrogen. Marsh is of the opinion that the exhaustion of the dissolved oxygen causes the fish mortality. The Passaic shad industry was utterly destroyed by pollution in the river. In many cases fish are destroyed by factory wastes. Dead fish were found in countless numbers after arsenated water was discharged once from a dye works. Sulphuretted hydrogen from starch works, lime from bleacheries, gluten from glucose works, coal-mine and culm bank washeries and decomposing animal matter are all causing enormous destruction of fish. Sawdust and wood pulp destroy trout and bass. The wastes from woodpulp mills, oil wells and gas factories make fish life impossible (Leighton, Marsh, Sweeney). The stocking of streams by the planting of young fry is frequently a failure because of water pollution. The fresh content of a stream may usually be regarded as a relative indication of objectional pollution, as the salt content is considered as a relative indicator of sewage.

The sewage and factory pollution of the streams, with the noxious odors and surface impurities, and with the resulting absence of the smaller fish, is an important factor in the scarcity of game and other birds on the shores. The same causes make it impossible for people to live near some streams or to water live stock therefrom. Realty values decrease markedly along streams which become polluted. Land along the Passaic River that commanded values of $500 to $800 an acre for farming a few years ago possessed no value at all in 1902.

Since factory pollution is frequent and easily visible, its presence may best be detected by those who are accustomed to visit the manufacturing plants. Factory inspection is a necessary requirement in every state and city, but it seems advisable to place it under the guidance and control of a state department of health; at least, the inspectors should be required to submit sanitary reports to the health bureaus. It is most philanthropic for the factory inspectors to determine the presence of any employés under the legal working age, but more benefit would be derived if more attention were given to the sanitary and health conditions affecting the individuals. It should not only be determined that proper toilet facilities were provided for the employés, but that these toilets are properly located and maintained, and are not a menace. Too many factory toilets are built directly over streams and conducted in such a way that flies may readily carry germs to food-supplies. To determine the age of a child in a factory may save a single life, but to determine where that child has been forced to deposit his discharges may save a hundred. It is the saving of the masses that must be perfected.

No untreated offensive factory waste should be permitted to be discharged into watercourses. Such wastes, as dyes, chemicals, acids and bleaching powders, should be subjected to appropriate chemical precipitants or to coagulants that will render the effluent from settling-basins clear, colorless and free from contamination. For many wastes, aluminum sulphate is the safest and most effective coagulant, but for others ferrous sulphate or slaked lime is preferable. Coke filters possess an absorptive power for many coloring matters (Dunbar). In some cases, as with brewery wastes, it may be more satisfactory to include the factory wastes with municipal sewage rather than to attempt to treat them separately. If possible the wastes should be converted into industrial profit, as is being attempted with sulphite pulp waste.

EFFICACY OF FILTRATION

The influence exerted by the establishment of sewerage and of water filtration is clearly shown by the following table of the typhoid mortality:

Rate per 100,000 Population.	Before Sewerage.	After Sewerage.	After Filtration.
Boston	174	60	20
Lawrence	96	18	2.1
London	90	50	14
Berlin	92	50	5
Breslau	92	40	9
Munich	254	27	9
13 Mass. Cities, average.....	79.4	38.3	

In other words, water filtration caused a reduction in the typhoid mortality rate of 98 per cent. at Lawrence, 90 per cent. at Ashland, Wis., 80 per cent. at Binghamton, N. Y., 76 per cent. at Philadelphia, 75 per cent. at Watertown, 66 per cent. at Boston and 60 per cent. at Albany.

The bacterial efficiency of sand filters shows that practical application does not fall much below experimental results. In the experimental sand filters at Lawrence 99.48 per cent. of the bacteria were removed, and at the Pittsburg experimental plant 99 per cent. In practice the efficiency of the Providence filters is 99.68 per cent.; Philadelphia, 99.59 per cent.; Rensselaer, N. Y., 99.48 per cent.; York, Pa., 99.57 per cent.; Lawrence, 99 per cent.; Loraine, Ohio, 98 per cent.; Elmira, 98.43 per cent., and Norfolk, 95.99 per cent.

Turbidity is another objectionable condition removed by water purification. It is not only an esthetic objection, but in various industrial establishments an actual menace, and frequently necessitates the installation of private filters. These filters are not sufficient to remove all turbidity and coloration. The removal of fine mineral turbidity, such as comes from clay and culm, can not be accomplished by slow sand filtration, but requires a coagulant.

The turbidity from culm comes principally from the washing of the culm banks in the recovery of buckwheat and rice coal.

Rural contamination of streams should receive more consideration than has been accorded to it; and means must be adopted to check the damage resulting from privies which are placed over streams or on the river banks, and from remote factories discharging into the watercourses. Camps, be they for military, for pleasure, for workman or gypsies, should be so located that the privies are situated far from all streams and far from the camps themselves. It is preferable for the toilet to be erected on the summit of a hill, provided there be no pump or well immediately below. Since it is possible for the direction of flow of ground water to be in the opposite direction to that of surface water, as toward a hill summit, in locating wells and cesspools the position of the near-by large watercourses must be considered. Ground water tends to flow toward the larger streams or rivers, without being necessarily influenced by intervening hills. The epidemic at Ithaca probably resulted from a gang of Italian railroad workmen establishing their camp along the water supply. These camps should have definite latrines erected, the location of which should be occasionally changed.

Some writers persist in saying that there is no objection to a farmer emptying sewage into a stream, and Lake adds the provision, "if the stream is not used for domestic supply." A stream not used for a domestic supply is a rarity; except in few unsettled districts, all streams had better be regarded as domestic supplies. To empty sewage into a watercourse is probably more dangerous than the use of the old-fashioned privy, except where the privy is in immediate proximity to a well.

Stream pollution is far more dangerous than the use of a properly situated, properly constructed and protected privy. Sanitary engineers accept the theorem that it is the time consumed and not the dilution or rapidity and turbulence of a river that is most responsible for the bacterial purification of streams. If typhoid germs are discharged into a stream which flows at a rate of five miles an hour, which is a comparatively quiet stream, accepting Russell's results that the germs will die in five days, those germs could be carried 600 miles, surely far enough to reach some domestic supply. Hence it may be concluded that any pollution, however remote, is apt to affect some consumer, unless it occurs near the sea.

To assist in the purification of watercourses, physicians should be required to disinfect all discharges from typhoid and tuberculous patients. Physicians should be more prompt in reporting infectious cases, being required by law and encouraged by printed postals. They should report cases of insanitation coming under their notice. Local health officers and factory inspectors should inspect temporary camps of workmen and pleasure seekers, and should inspect and report to a central authority all examples of stream pollution from towns, houses and factories which occur within their precincts, as well as any gross polluted appearance of the watercourses. The finding of dead fish in a stream, being indicative of some kind of pollution, should lead to an inspection, and the saving of fish should be an object. Before establishing a filtration system cities should determine the feasibility of obtaining water from an unpolluted locality which can be kept under control. Watersheds should be patroled. A good man on the alert can patrol a large district, getting his information through various ways and personally inspecting all suspicious localities frequently.

By securing legal enactment and arousing public sympathy through the use of statistical and experimental evidence, with the use of uniform standards to reppresent financial results, the work of the sanitary corps is strengthened. Their work becomes more efficient by obtaining notices of legal or hygienic encroachments through such channels as information can come, and eternal vigilance on the part of the few brings success and life to the many.

5038 Pine Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. EVANS AND WOOD

Dr. W. K. Jacques, Chicago: I drink Lake Michigan water, and I think that every one who is thus afflicted ought to be thankful to Dr. Evans for this paper and also for the water commission which was started under his influence and instigation. If it keeps on as it has begun, the data which will soon be collected will be of the greatest value to those who are obliged to depend for their drinking water and domestic water supply on Lake Michigan and the tributary lakes. It is strange that the very people most interested are the people who do not care to take part in this sort of thing. As an illustration, I have a summer home across the lake in a small city, and when I first went there the people of that town were depending on the disposal of excreta in privies, as in ordinary country places. Within five years a sewer has been opened and extended down into a little river which passes through the center of the city. The water supply is taken in along this river from Lake Michigan. Since the sewer has been emptied into the river typhoid has been a veritable scourge in that town. Last winter it was decided that something must be wrong with the intake; a diver investigated and found twenty-three places where the intake was defective and the river water was going in through the intake. That is, he reported twenty-three places; and that is all they had money enough to repair.

Now, the City of Chicago sends to this city over a hundred thousand people every summer, a large proportion of whom are young and especially susceptible to typhoid infection. It would pay Chicago to extend that water intake; but we, of course, are unable to do it; and this state has withdrawn from this commission; so that the very state that needs it most will get the least benefit from the commission. The proper disposal of this sewage before it is even emptied into the river and the extension of that intake a mile out into the lake are what should be required.

Dr. L. H. Montgomery, Chicago: I was pleased to hear Dr. Evans in his paper state that, in his opinion, the federal government should have control or supervision over the chain of our northern lakes, having reference, of course, to the pollution of the water. I do not know whether he intended to intimate that the general government should have control of the rivers discharging their waters into those lakes. I would favor federal control of streams and rivers as well, as many, if indeed not all of these larger rivers serve as open sewers throughout the United States. We seldom hear of any one being prosecuted for pollution of rivers; factories are located on rivers and lakes; discharges are emptied there by the employees; and while many of the commonwealths have laws prohibiting pollution of springs, lakes, rivers and other sources of fresh water for domiciliary purposes, yet the legislatures do not make the financial appropriations for the observance of such laws and the punishment of violators thereof. This pollution goes on year after year, then somebody awakens, and, as Dr. Jacques says, money is appropriated which goes so far and no farther, partly removing the trouble while the menace to health still goes on in a degree. There is negligence, and it is often, I believe, from lack of appropriations that state authorities do not go ahead and carry out the law. I believe that the national government should have control over all these matters connected with our great rivers and lakes throughout the country.

Dr. W. Forrest Dutton, Walker's Mills, Pa.: I believe that the members of this Section who were in Chicago last year remember the courtesy shown us by the City of Chicago when, through the hospitality of Dr. Evans, we were shown the wonderful mechanism of Chicago's water supply. To my mind, it is one of the most wonderful pieces of sanitary work that I have ever seen; and I believe that the municipality of Chicago does not really appreciate the hard work that Dr. Evans has put into its department of health. I believe that if Dr. Evans is maintained at the head of the department of health in the City of Chicago, in a very few years he will make it one of the cleanest cities in the world; whereas, some few years ago, it was referred to as one of the dirtiest. Coming a little closer home, to the City of Pittsburg, since the installation of its filtration plant, the rate of typhoid mortality has been reduced from 200 per 100,000 to about 15 per 100,000. It is impossible to filter the steel mill chemicals from the river water. These so irritate the intestinal tract that it readily becomes a point of attack for the typhoid bacillus. If the large municipalities throughout the United States had such officials as Dr. Evans of Chicago, Dr. Hurty of Indianapolis, Dr. Bracken of St. Paul, and the eminent sanitarian, Dr. Egbert of Philadelphia, we should have a much better record to show to our brethren abroad.

Dr. Seneca Egbert, Philadelphia, Pa.: I would like to take issue with Dr. Montgomery as to the government taking charge of all rivers and streams. I believe that the government should take charge of the great chain of lakes, but we are demonstrating in Pennsylvania that we do not need the United States government's help. With a fair appropriation from the state legislature, and men who have nerve enough to do the work, it can be done by the states. I am enough of a states' rights' man to believe in that sort of thing. It was said not long ago that the Pennsylvania State Commissioner of Health had cleaned up over 4,000 sources of pollution along the Schuylkill that supplies most of Philadelphia with water. Those of us who live in Pennsylvania all know that a tremendous amount of work toward the protection of the streams can be done—and has been done—by a man who has the power of the state back of him, a good, thorough appropriation, and then enough nerve to do the work. More than that, I think Philadelphians as well as Pittsburgers have appreciated the benefits of the improvement of the water supply. In my own ward, one of my near neighbors, a practising colleague, a few years ago had 30 cases of typhoid fever in a year; he now has 3. We are practically eliminating typhoid from Philadelphia, which used to be notable for its excess of this disease.

There is another phase of the question: Since we have learned so much in the last two or three years about typhoid bacilli-carriers, it seems to me that the importance of this question of the non-pollution of streams is greater than it ever was before. We know now that people traveling from place to place can still carry the infection of a typhoid attack of months or years before to those places; and if the drainage from any privy or cesspool can get into the water supply, they may become sources of typhoid infection to large numbers of people. Many and many a small town, and almost all the smaller hamlets, have no common water-supply or any sewer system, and the people rely on the old-fashioned well and the old-fashioned privy vaults. In such places the danger of infection must be occasionally present and we cannot give too much attention to this problem.

Dr. Marshall Langton Price, Baltimore: There is a single point in Dr. Wood's paper that I want to touch on; that is the estimate of the economic loss caused by the death of a human being. It is admitted, of course, that any computation is unsatisfactory, and often inaccurate; but whether we have an accurate or inaccurate standard, we ought to agree on some standard of computation. I recently recommended for that purpose what I call the life-capital method. That is, computing an indivdual's earnings up to the time he becomes economically disqualified, or up to the time of his death, we can calculate the loss in life capital by using any of the standard life-tables. From these we can calculate the average expectancy of life at the time the individual dies of any disease such as typhoid. If a man earns $2 a day from his eighteenth to his thirtieth year, he will accumulate $10,000 life-capital: that is, he has lived a $10,000 life. Of course, if those earnings are interrupted by death or disease, he has evidently lost part of his life-capital—that which under the life-capital method he would have earned if he had remained alive to his thirtieth year. You have to give definite limits to the working period; but it strikes me that it is about the best standard which we can devise at the present time as a unit, and one least liable to misconstruction. In regard to typhoid being a rural disease, that fact was first pointed out by a civilian, Colonel Waring. The subject was later exhaustively described by Dr. Fulton in a careful comparison of rural and urban typhoid fever; and he found, in his studies, that the rural mortality was very considerably higher, I think almost 50 per cent.

Dr. John S. Fulton, Baltimore, Md.: I classified more than 300 cities according to their populations, and found that the five largest cities in the United States had the lowest typhoid mortality, averaging about 25 per 100,000. The average for these five cities, at this time, would be found lower. From this minimum of 25 per 100,000 the mortality was found to increase as the scale of population diminished, until the heaviest typhoid mortality was reached under truly rural conditions, i. e., where only about 10 per cent. of the people live in towns. Rural populations suffered a typhoid mortality of about 65 per 100,000. Pittsburg caused an irregularity in this descending scale of mortality, the monstrous mortality of this city raising the average for all the cities of that class to about 45 per 100,000. While the article to which Dr. Price refers may have been the first in which convincing figures were shown, it was not far ahead of Dr. Egbert's article in which the same conclusion was reached. Long before either of us looked into the statistics, Colonel Waring said, in the introduction to his work on "Sewerage," that typhoid fever is a rural disease, and its progress is in general from the country to the city, rather than from the city to the country. It was a layman, therefore, and not a physician, who first called attention to the error, so prevalent among medical writers, of discussing typhoid fever as one of the chief scourges of cities.

Dr. F. W. Sell, Rahway, N. J.: I want to speak a word for New Jersey, and to say that we have now, I think, taken an advanced position, alongside of Pennsylvania, Massachusetts, and New York, in the way that our state board of health is supervising the disposal of the sewage of towns on our watersheds. I think that there are no less than 53 disposal plants now under the supervision of our state board either on the shore or on inland watersheds. Individual cities have tried to oppose the putting in of these plants because of lack of education. They do not seem to realize the necessity of it; but the time will come, I feel sure, when they will all fall in line; and one very great sign of the times, I consider, is shown in the cooperation of the states of New York, Pennsylvania and New Jersey along the Delaware, in a similar manner to that of the cities and states which Dr. Evans has described.

Dr. J. H. White, New Orleans: I do not believe that national control should be extended any further than that point at which the people with practical unanimity shall propose the surrender of their authority to the nation and admit that the job is too big for them. The point where national control should come in (and this is what Dr. Evans claims) is on waters that are interstate, on waters which involve, especially, as the lakes do, not only interstate, but international issues, and in similar cases. I am a representative of the national health service, and I want to make it plain that we are not trying to gobble what does not belong to us.

Dr. W. A. Evans, Chicago: The situation in Chicago is this: Twenty-four miles north is Waukegan, a city of 30,000. The intervening distance is solidly filled in with smaller towns. The sewage of these, nearly always raw, is poured into the lake. The drinking-water is taken from the lake at points always less than one mile from shore. No intake is more than two miles from the nearest sewer outfall and some are much nearer. The water is not filtered. Then comes Chicago's twenty-five miles of lake front. In this sweep no sewage enters the lake except through the Calumet River, located two miles from the Indiana line. In it there are six water intakes; one, about two miles from Chicago's north line, is located close in shore, but is supplied with a filter; the others are from two to four miles out; they do not have filters. Joining us on the south are Hammond, East Chicago, Indiana Harbor, Whiting and Gary, having a combined population of about 100,000. These towns put one-half their sewage into the Calumet River and the other half directly into the lake. The Calumet River receives the sewage of about 200,000 people; 50,000 in Indiana and 150,000 in Chicago and Cook county outside of Chicago. None of this sewage flows over ten miles in the river and the bulk of it flows less than three miles in the river. About half the Calumet River is in Indiana and half in Illinois. Its mouth is in Illinois two miles from Indiana. The Indiana towns, except Gary, have water intakes within a few hundred feet of shore and a few hundred feet of sewer outfalls and are without filters. The sewage is raw. From the Calumet River to the nearest Chicago intake is about four miles. From the Calumet River to the farthest Indiana intake, except Gary, is about five miles.

There are no constant water or wind currents in Lake Michigan. The current is with the wind. A lake flow of five miles is not sufficient to purify a large volume of sewage. When a strong north wind blows every town is polluted by the town north of it. And the Calumet River, carrying Chicago sewage, pollutes the Indiana towns. When the wind is from the southeast the Indiana sewage pollutes the Chicago water and every town up to Waukegan is polluted by the towns south of it.

Whose problem is the Calumet—half in Indiana, half in Illinois—discharging in Illinois two miles from the line, and with a lake flow into Indiana waters whenever the wind is from the west or north? Can any government handle a problem like this except the national government? Are not lines of demarkation between states theories, while a stream of sewage pollution from the Hammond sewer to the Chicago intake is an actual condition? If the national government has not now a way, is it not up to them to find a way?

Then there is the matter of dumping dredgings into Lake Michigan near water intakes. Much of this dumping is done under contract with the War Department. In Chicago waters most of this is clay and it is dumped in water sixteen feet deep. Storms stir Lake Michigan to a depth of fifty feet at times. Consequently our drinking-water is often muddy after a storm. We are insisting that this dumping be done behind breakwaters or else in water over fifty feet deep. The position taken by the chief of engineers is that the government has exclusive control of dumping, the city has no authority, but that the government has no right to be swayed by any consideration of health. To this I would say that if the government officials finally conclude they have now no way, it is up to them speedily to find a way.

I wish to mention another point before concluding. I know of a town near Chicago which has located its intakes with relation to its sewer outfalls on the basis of a continuous lake flow in one direction, and not far away is another town which has its water intakes located on the basis of a flow in the opposite direction. Each is wrong.

Dr. Harold B. Wood, Philadelphia: To her honor, include New Jersey with New Hampshire. These are the two states having the lowest typhoid mortality rate. In Pennsylvania, Dr. Dixon, that he may best overcome the rural typhoid mortality, is having sanitary surveys made of all streams. The work at present is being done in the western part of the state, having accomplished a sanitary survey of every tributary of probably three-fourths of the Allegheny river. In regard to the utilization of privies: Sanitarians have been working for some time to abolish privies, warning the people, but advising them of no methods for a proper sewage disposal in the country places or for factories situated along streams. One town in the South, of probably five or six hundred inhabitants, uses, I am told, about forty privies situated along a river bank overhanging the stream. The lack of danger from some privies (that is, excluding the danger from fly contamination) where they cannot pollute water supplies, can be well illustrated by the case of Media, Pa. Recently I talked with a physician who said that in the last ten years there had been not five cases of typhoid fever in Media, a city of about 4,000 inhabitants. Dug privy wells is the only sewage disposal. The water is entirely pumped from a nearby stream, an excellent water, practically under control. One of the contentions to be met in Philadelphia is the impatience of the people. Recently there has been a small typhoid outbreak there in the northern part of the city, that part which has just been supplied with filtered water. Immediately the newspapers and the general public concluded that there was an inefficiency in the slow-sand filters. There is no doubt that the infection came *almost entirely through* food-supplies, flies and importation. In this outbreak the milk supply could be excluded. Some of the people in Philadelphia doubt the utility of the filters on account of their not excluding all turbidity, never having been instructed by the newspapers, or in any other way, that the finest turbidity cannot be removed by slow-sand filtration. Of course, it must be admitted that it is extremely difficult to detect the typhoid bacillus in water. While most experimenters adopt the Drigalshi-Conradi method, Dr. Bergey employs a test founded on the fermentative ability of the bacteria; and Dr. Rives, Pennsylvania's state bacteriologist, depends on his colorimetric test. A sanitary inspection is of as much value and dependence as a laboratory analysis of a water. In view of doubts expressed, the evidence is conclusive that water is contaminated and often transmits disease.

Clinical Notes

SYMPTOMS FOLLOWING THE CUTANEOUS TUBERCULIN TEST, SUGGESTIVE OF A SPECIFIC GENERAL REACTION

F. BUCKMASTER, M. D.
EFFINGHAM, ILL.

A few months ago when Dr. C. von Pirquet made known to the medical world his tuberculin skin test much was hoped from it in a diagnostic way, and, indeed, much was promised. Simplicity of detail, practical reliability, and freedom from specific general and focal symptoms were claimed for it. There can be no argument as to the first claim made for this test, but much has been said against its reliability as a diagnostic means in tuberculosis. Regardless of what we had expected of it, or of what had been claimed for it in a diagnostic way by Dr. von Pirquet, it has never been determined definitely as yet just what its true diagnostic reliability is, or will prove to be, in the various forms of tuberculosis.

However, opinions on its diagnostic value may have been at variance, it seems to have been generally conceded by those who have used it that it was free from specific general and focal reactions in the presence of tuberculous disease. Regarding these reactions Dr. C. von Pirquet[1] himself has the following to say:

> My cutaneous method has the advantage over the injection of tuberculin, that it does not produce any general symptoms. . . . . It is, however, not as sensitive as the *Stichreaction*, and does not produce inflammatory phenomena of the tuberculous foci, which after Koch's injection can be utilized diagnostically."

These views as expressed by von Pirquet seem to have been looked on by all as being true. I wish at this time, however, to report a case exhibiting symptoms, unmistakably those of a specific general reaction, following this skin test. The history follows:

History.—Miss G. B., aged 27, was seen June 23, 1909. Father died at age of 50, from hepatic abscess, complicated by some form of chronic pleural and pulmonary diseases, likely tuberculosis. Mother died at 61 from heart disease. Two brothers alive; one is said to have Bright's disease. One brother died at 21 from tuberculosis, following an attack of influenza. Four sisters alive and well; three dead, one at 16 from heart disease; one at 17 and one at 19 from tuberculosis. Patient does light housework at home when able. Was well as a child, except for pneumonia at 5, of moderate severity, from which she made a good recovery. At 7 she was in bed six or seven weeks with an attack of typhoid, making a good recovery after about three or four months. Had febrile attacks at 14, and at 24, which was diagnosed as typhoid, but she was never totally confined to bed during their course, but in each instance was "up and down" for two or three weeks. Permanent recoveries seemed to her to be good. Had an acute bronchitis during the past spring, having some fever and cough for a week or two, both finally leaving her, but she says she has not been so well since that sickness, and that she has had soreness, and at times a weak feeling in the chest. Has much pain and soreness in the right upper abdomen, at times, and says stomach feels better after eating; says she has a hungry feeling or pain, which causes her to eat often between meals, and occasionally during the night. No vomiting, except a few years ago when she had severe acute attacks of pain. Menstruation has always been regular, beginning at 12, quite free, of four or five days' duration; has pain and cramps, and is usually in bed a day or more. The last period appeared the middle of June. Has had some leucorrhea this spring.

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[1] The Journal A. M. A., Feb. 27, 1909, lii, 675.

Present Illness.—Began six years ago with a right abdominal pain, cramp-like, and intermittent, which kept her in bed for about a week. Says the right side of the abdomen was very sore at the time. Says she gradually recovered, but has had light attacks of pain and soreness in the same region every few days, which she thinks would have amounted to one week in each month, but says the trouble was not connected with the regular times for the periods. Four years ago she was in bed for two weeks with another severe acute attack, apparently of the same trouble. She vomited during this and the first acute attack. Recovery from this attack was very imperfect, and she has almost never been free from her abdominal pain and soreness since, but never in bed with it again, though she has worked some at times. Her trouble has gradually grown worse for the past four years, until about three weeks ago, when she says she felt something give way in her, as it were, and this was followed in about two hours by the discharge of about a pint of pus by the rectum. She continued to pass more pus by the rectum at intervals, for the next five days, when it totally ceased. While passing this pus she had freedeom from pain, but when the discharge ceased the pain and soreness again became prominent. No cough and no night sweat. Patient has been "up and down," and has been without fever during the two weeks that Dr. Broadway has treated her.

Examination.—The patient looks weak and tired; weighs 97 pounds; skin is dark, pupillary reaction is slow, tongue is coated, has no goiter. Patient has a well-formed and a well-filled-out chest, and expansion is good. Lungs negative, except perhaps for the slightest harshness in the breath sounds in the outer half of the upper third of the anterior surface of the right lung. Heart negative and pulse 74. Abdomen, to inspection and percussion, appears normal. Liver slightly enlarged. Spleen normal in size and position. The right upper quadrant is very rigid and very tender, with the tenderness seeming to center over the gall-bladder and the duodenum, diffusing out over the pylorus, and downward toward the appendix, though in the immediate appendiceal region there is no rigidity, but there is much tenderness deep in at McBurney's point, showing the unmistakable appendiceal lesion, indicated by her history.

The left side in total, and the right lower quadrant except the appendix shows no tenderness, and no rigidity, except for a left rectus rigidity for about two or three inches, opposite the umbilicus. No tenderness here though. No masses can be made out. No renal tenderness, or displacement, nor can other visceral displacement be made out. Bimanual by rectum shows nothing, but apparently normal conditions. Temperature and pulse during the afternoon remained normal. Bowels have been moving two to three times a day, without diarrheal tendency. The von Pirquet test was made about 1 p. m., the upper and lower points on her arm being inoculated. Patient was left in bed on a very light diet, and with ice-bag on abdomen.

The next morning the patient complained that she was really sick, felt flushed and full headed, nauseated, with scant vomiting, and had an increase in her abdominal soreness and much more pain, and at 9 her temperature was 101.6 and pulse 100. During the day her temperature reached 102, and the pulse a little above 100, and she was "sick," as she expressed it, all day, could eat nothing, and had some headache, though this has been a very infrequent symptom with her. By 8 in the evening her temperature had dropped to 100 and the pulse to 86, and she felt much better in every way, the nausea and the oppressive feeling in her chest clearing up. During this day and the next, considerable harshness in breathing and a little dulness on percussion existed in the part of the right lung where I had the day before heard a little harsh breathing, but no râles were heard.

On the next morning her temperature and pulse were normal, and have remained so for the past three days, and her soreness and pain have entirely cleared up from the rest and ice-bag, and she has had no nausea nor other of the disagreeable symptoms so prominent the next day after the skin test was made. The local reaction on the arm, beginning to show on the same day the fever and other symptoms showed themselves, became very bright.

The total sample of urine for twenty-four hours was 52 ounces, with a specific gravity of 1.008, but was negative to all further tests. No tubercle bacilli in the little bit of sputum once collected, and an analysis of the stomach contents made on two successive mornings showed each time four ounces withdrawn, of a smooth even consistence, showing that it was being well digested; no free hydrochloric acid and no organic acids. One examination showed the combined acids at 65 points Toepfer, while the next showed 60.

Operation (June 29, 1909).—Chronic adhesive appendicitis was found, the appendix reaching up practically to the right kidney. The adhesions were attached high up to the mesentery of the ascending colon and were drawn very tight, evidently causing the pain. Stomach, duodenum, bile system and pancreas were negative. Pain left the patient and all soreness cleared up shortly after operation and she went home the eighteenth day. There were no appearances of tuberculosis in the abdomen. Since the patient went home she has taken fats freely and sleeps out in a tent and is doing well.

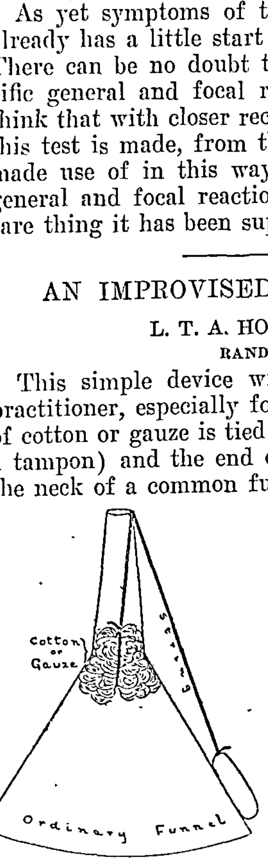
I noticed in THE JOURNAL[1] a report by Dr. Rayevsky of two similar results. One of his specific general reactions was much more marked than occurred in my one case. Otherwise the time of appearance of the symptoms and their nature tallied very closely in all three cases. No hoarseness developed in my case, as the throat and larynx were free from involvement.

As yet symptoms of tuberculous involvement, which already has a little start in the right lung, are lacking. There can be no doubt that this patient showed a specific general and focal reaction, and I am inclined to think that with closer records kept on patients on whom this test is made, from the large dose of the tuberculin made use of in this way, we shall find that a specific general and focal reaction will be found not to be the rare thing it has been supposed to be in the past.

AN IMPROVISED ANESTHESIA CONE

L. T. A. HOTTENDORF, M.D.
RANDOLPH, UTAH

This simple device will appeal to many a country practitioner, especially for obstetric work. A small wad of cotton or gauze is tied up with a piece of string (like a tampon) and the end of the string is passed through the neck of a common funnel and tied in place outside. The anesthetic is dropped on the cotton as required. The amount of cotton or gauze should vary, depending on whether it is desired to use the anesthetic by the drop method or to saturate the pad. The patient can hold the cone herself, and, therefore, there is no possibility of giving too much anesthetic. I have found this simple arrangement very satisfactory in a great number of cases.



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[1] June 26, 1909, lii, 2102.

ABNORMALLY LONG VERMIFORM APPENDIX *

H. P. COLE, M.D., and GILMAN J. WINTHROP, M.D.
MOBILE, ALA.

The average length of the appendix, as stated by different authors, is from 8 to 11.5 cm (3 to 4½ in.), with a mean of 9.2 cm. (Kelly, Ribbert and Berry place it at about 8.3 cm., 3¼ in.), or between 3 and 3½ inches. Abnormally long appendices have been noted by J. D. Blake (24 cm.—9⅓ in.), Lafforge (24 cm.—9⅓ in.), Luschka (23 cm.—9 in.) and Lenzmann (22 cm.—8⅔ in.). Below we report a case in which we removed an appendix 20.9 cm. (8¼ in.) in length, about two and one-half times the normal length.

History.—The patient was a mulatto woman, aged 31 years, having what we diagnosed clinically as a myoma of the uterus and an ovarian cyst (left).

Operation.—On Dec. 3, 1908, under ether anesthesia, a pedunculated myoma 13.5 by 13 by 13 cm. (5 1/5 by 5 by 5 in.) was removed by tying and cutting the pedicle. A large ovarian cyst, together with the Fallopian tube, was removed from the left broad ligament. A small cyst was removed from the right ovary. On looking for the appendix almost complete absence of the mesoappendix was noted. The appendix lay in the second most frequent position ascending vertically behind the cecum and first portion of the colon, and partially attached to the dorsal wall of the large intestine. The tip extended to the level of the upper pole of the kidney. Considerable difficulty being experienced in freeing the appendix, its peritoneal coat was incised at the cecal junction and the appendix then stripped and dissected free from this covering. The stump was ligated and inverted into the cecum by the usual purse-string method. The uterus was then suspended and the abdomen closed without drainage. The patient made an uneventful recovery and left the hospital twelve days after the operation.

This appendix had apparently given no symptoms. It was probably drawn into the ascending position by the formation of early adhesions between the appendix and the other organs lying posterior to the cecum at the time of its descent, as suggested by Kelly. Removal was undertaken because of the more frequent occurrence of inflammation in appendices lying in this position.

204 Conti Street.

TECHNIC IN TRANSFUSION

HERMANN B. GESSNER, M.D.
Professor in the Miles Laboratory of Operative Surgery, Tulane University of Louisiana
NEW ORLEANS

In experimental work in the laboratory, in which I have had the assistance of Dr. W. Lassiter, we have found the use of the fine tenacula of the Elsberg outfit advantageous in doing transfusion experiments on the lower animals with the Crile tube. The tenaculum is thrust through the Crile tube, hooks the artery by the circumference, and draws it through more quickly and with less traumatism than when sutures are used for the purpose or the artery is pushed through. The artery once drawn through, a second tenaculum suffices to cuff the extremity over the Crile tube. Here the cuff may be secured with a ligature over one of the grooves or, if desired, it can be held in place with the two tenacula while with two more the recipient vessel is drawn over the cuffed donor vessel and a single ligature used to hold both over the tube.

The advantages are ease of performance, a minimum of traumatism, and economy of time.

506 Morris Building.

ACUTE MILIARY TUBERCULOSIS FOLLOWING RENAL TUBERCULOSIS, SECONDARY TO OLD HEALED BILATERAL APICAL TUBERCULOSIS

PAUL H. RINGER, A.B., M.D.
ASHEVILLE, N. C.

The following case may be of interest to many as being to a great degree illustrative of the relations of cause and effect in the mobilization of tubercle bacilli after an apparent cure has been effected. In the case reported here no knowledge of the primary disease was obtained until the autopsy, the patient having died from general dissemination. A point of special interest is the intermediate route chosen by the tubercle bacilli, and their temporary halting place in the right kidney before spreading to the body at large.

Patient.—I was called on July 19, 1909, to see Mr. J. C., aged 28, a farmer from Kentucky, who had been in Asheville three weeks. Data were obtained from his wife.

History.—Mother and several brothers died of pulmonary tuberculosis. Patient well as a child; no past illnesses; was an athlete at college. About a year before this illness he had had "attacks" consisting of severe pain in the region of the bladder. These attacks came on after he had worked very hard building a house. The pain caused vomiting. These attacks recurred several times, and finally stopped. About six months before the present illness he had "stomach trouble" (nature very obscure), and his home physiciain said he had too much acid in the gastric juice; this was counteracted by an alkali. Three months before the present illness the patient began to run an irregular temperature and to lose weight and strength. For the past two months the temperature had been constant, ranging from 99 to 102. *At no time* had there been actual cough; there had been transient expectoration ascribed to "catarrh." The patient was examined in April, 1909, and was told that his lungs were weak but that the physician did not think it was tuberculosis. It was understood from what could be elicited from his wife that a Moro cutaneous tuberculin test was given—result not positive. The patient had been kept in bed for a month at home and then sent to Asheville. While here he was constantly in bed, growing steadily worse. His bowels were somewhat loose; he was said to be voiding a normal amount of urine.

Examination (July 19).—Patient poorly nourished, sallow and pale; dorsal decubitus; expression anxious. Evidently much loss of weight. Pupils equal, reacting both to light and to accommodation, though somewhat sluggishly. Tongue heavily coated. Throat apparently normal.

Chest: Note over all normal save for possible hyperresonance over the upper lobes. Breath-sounds normal over all. A few subcrepitant râles heard on deep breathing and on coughing in first right and left intercostal spaces. Also a few râles on left side in anterior and mid-axillary lines down to about the eighth rib. No adventitious sounds behind.

Abdomen: Tender over all. Liver, spleen and gall bladder not palpable. Some tympanites; no rose-spots. In hypogastric region there was a large tumor half the size of an adult head, sharply defined, smooth, tense, flat on percussion. It was in the region of the bladder and very tender to pressure. Patient voided about 12 ounces of urine on request. This was examined and found to be acid, sp. gr. 1,016, trace of albumin, moderate amount of pus, no other abnormality. Patient semidelirious for past three days—cerebration slow. Tried to get out of bed.

Course of Disease.—Owing to the inaccessibility of the patient's house and to lack of proper facilities for caring for him, he was brought to the Asheville Mission Hospital on the morning of July 20. During the night of the 19th he was given morphin gr. ⅛, which kept him fairly quiet. The next morning, July 20, he drove three miles and was admitted to the hospital at 11:45 a. m. suffering from a hard chill. At 1 p. m., the abdominal tumor persisting, and having seemingly increased in size, he was catheterized and 53 ounces of urine withdrawn, the tumor promptly disappearing. He was catheterized again at 9:30 p. m. the same evening and the large amount of urine withdrawn (84 ounces). The patient was given sulphonethylmethanum (trional) gr. 10 and passed a restless night semidelirious, trying to get out of bed and fancying that he saw many people around him. He was again catheterized at 2:30 p. m. on July 21 and 70 ounces withdrawn. I then called Dr. Charles L. Minor of Asheville in consultation. The patient was semi-delirious, quite dyspneic, not cyanotic, abdomen slightly distended, signs in chest as stated above. Dr. Minor and myself made a tentative diagnosis of acute general miliary tuberculosis, based on the following points: Probability of tuberculosis from the history; continued temperature for two months; marked cerebral involvement; abdominal symptoms; decided dyspnea with but insignificant chest findings; rapidity of pulse (120). An Arneth blood picture was made, *giving the following result:*

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* Read before the Medical Society of Mobile County, Ala., Jan. 29, 1909.

I.	II.	III.	IV.	V.	Index.	
29.	42.	24.	3.	2.	83.	(High.)

Leucocyte count, 16,000.

Dr. W. L. Dunn of Asheville also saw the patient, agreed with our diagnosis and did a Widal reaction which was wholly negative in a dilution 1:30.

Patient was again catheterized at midnight on July 21 and 38 ounces withdrawn. Bowels being constipated, 2 drams of a saturated solution of magnesium sulphate were ordered every hour until bowels moved. Other treatment was simply supportive, strychnin and digitalis being given. At night the patient was given morphin, gr. ⅛, which kept him fairly quiet. July 22 patient catheterized three times—total of 64 ounces withdrawn. July 23 the patient had ten involuntary bowel and bladder evacuations; the pulse grew weaker, respirations shallower, the abdomen became more and more distended, and the patient died at 9:45 on the night of July 25. At no time was he rational, and during the last three or four days but rarely recognized those round about him. During his stay at the hospital his temperature ranged from 100.2 to 102.4, with the exception of a drop to 98.3 on the morning of July 21. His pulse ranged between 108 and 140.

The apparently great polyuria was difficult to explain. The following theory has suggested itself to me: For three weeks the patient had been very sick with no skilled attendant about. His wife, though willing, was not qualified to observe keenly. As he passed urine, she believed that all was well, and paid no heed to the quantity. Owing to his sluggish mental condition, he passed but a small portion of the urine that was in the bladder. As a result, the bladder gradually lost its tone and became greatly dilated. Shortly after systematic catheterization was begun, the bladder regained its tone, and far less urine was obtained than at first. I am therefore led to believe that the polyuria was far more apparent than real. Clinical diagnosis: Acute general miliary tuberculosis; dilatation of bladder.

Autopsy (July 25, 1909, 11 p. m., one and one-half hours after death).—Body that of a large emaciated man. Panniculus adiposus very slight. On opening the abdomen (which was done first in this case), the intestines were found to be enormously distended. Save for some congestion in the ileum, they were normal throughout their whole extent. Peritoneum normal. One enlarged mesenteric gland. Pancreas normal.

Left Kidney: Scattered through the cortex and medulla were several (15 to 20) gray masses, slightly elevated above the surface of the kidney substance and of denser consistency. These areas were about three times the size of a pinhead and resembled gray tubercles. In some the center appeared to be undergoing caseous degeneration.

Right Kidney: Half the normal size. Color normal in central portion, yellowish-gray at each end. Capsule stripped off easily, showing at both poles a collection of waxy yellow matter raised above the surface of the kidney. The surrounding kidney tissue was pale. Section of the kidney along its convex border opened into two cavities, one at each end lined with caseous matter one-third of an inch in thickness and containing some detritus. These cavities opened into the pelvis of the kidney. The cavities were irregular in outline. The central portion of the kidney was nearly normal save for a few scattered tuberculous areas. The pelvis was not affected.

Spleen: A few areas, suggestive of miliary tubercles.

Liver: Normal.

Heart: Small, considerable fatty deposit. Heart muscle and valves normal. Pericardium normal.

Lungs: Unduly pale (countryman?), and both showing strong adhesions of moderate extent at the apices, but none elsewhere. Both apices showed somewhat pigmented depressed scars, 2 inches each, surrounded by emphysematous areas. On section apices showed old healed tuberculous scars with considerable fibrous tissue formation. Beginning outside these areas the whole of both lungs from apex to base was studded with millions of gray miliary tubercles. At the left base a few were *going on* to caseation. The lungs as a whole felt as though full of shot.

Brain: Not examined.

Anatomic Diagnosis: Old healed bilateral apical pulmonary tuberculosis; *bipolar caseous tuberculosis of right kidney;* beginning tuberculosis of left kidney; possible tuberculosis of spleen.

The chronologic order of events seems to have been as follows: An old healed apical tuberculosis; mobilization of the bacilli very probably because of violent physical effort when house-building; lodgment of bacilli in right kidney with establishment of renal tuberculosis and appearance of bladder symptoms referred to in history of case; spread of infection to left kidney; breaking down of areas in right kidney and discharge into a vein giving rise to general dissemination throughout the lungs and without doubt throughout the central nervous system as well.

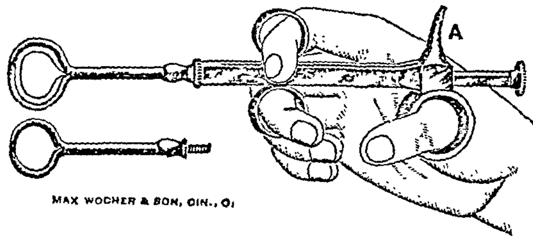
33 Haywood street.

A NEW TONSIL-SNARE *

H. H. MARTIN, M.D.

SAVANNAH, GA.

I have been using with much satisfaction for the past two years the tonsil-snare shown in the accompanying illustration. I claim nothing original for this instrument, as it is simply a modification of the Krausmueller-Peters snare with the Vedder tip, but the modification is such and the instrument is so solidly constructed that it can be used in the same manner and with the same degree of lateral pressure as the Mathieu tonsillotome.



The thumb-ring is very broad to prevent injury to the thumb; there is also an extra thumb-hold in case both hands should be required for the écrasement. The instrument is used in exactly the same manner as the Mathieu tonsillotome, except that the tonsil, after being thoroughly freed from all adhesions, must first be seized with a long tenaculum hook which is entrusted to the assistant who makes gentle traction while the operator handles the snare and the tongue-depressor; in case both hands are required in the écrasement the tongue-depressor can be laid aside as soon as the base of the tonsil is well engaged by the wire loop.

The construction of this instrument is so simple that it can be easily taken apart for cleaning.

247 Bull Street.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

DETAILS IN TWO COMMONLY USED URINARY TESTS

F. H. CHURCH, A.M., M.D.
UTICA, N. Y.

Those using the Jaffé test for the identification of indican or the indoxyl sulphates in the urine frequently meet an equivocal result. Instead of the expected indigo-blue-colored chloroform solution, the solvent takes on a reddish or reddish-violet tint. This may be due either to indigo-red or, more commonly, to the presence of iodids in the urine. In the latter case, if the iodid is present in large amounts, it may be identified by adding starch water and acidifying directly. If the iodid is present only in small amounts, the chloroform should be removed with the pipette and placed in another test-tube. A little starch water is added and the material made alkaline by the addition of a little sodium or potassium hydroxid. The iodid of the alkali is formed and goes into solution in the starch water. Now on the addition of a little acid the iodin is set free with the characteristic starch-iodin reaction.

According to the customary directions in the text-books for the performance of the Gerhardt test for aceto-acetic acid, on the addition of the ferric chlorid solution to the urine a marked and obscuring precipitate of phosphates is usually obtained. This may be avoided and much time and temper saved by the chemist's simple expedient of adding the urine drop by drop to 10 or 15 c.c. of the ferric chlorid solution. In this way it is also possible to get a rough idea of the amount of the aceto-acetic acid present. If this is present in quantities it will give a strong Bordeaux red coloration with the addition of a very few drops of the urine; otherwise this coloration will not be present until 1 or 2 c.c. of the urine have been added.

Furthermore, it is possible to vary the strength of the reaction by varying the acidity of the ferric chlorid. After the reaction is performed and in the presence of a weak or indeterminate result, the addition of a very little dilute acid or alkali will have a tendency to accentuate the color. The material may then be halved and one tube boiled. The diacetic acid is, of course, broken up and the red reaction clears up just as it would on standing for twenty-four or forty-eight hours. These facts hold for the behavior of the diacetate of ethyl in aqueous solution as well as the acid or more probably its esters in the urine.

43 Gardner Building.

Professional Secrecy and Accident Insurance.—An article in the *Presse Médicale*, April 17, by a professor in the law department of the university at Montpellier and a member of the medical faculty, discusses this subject and suggests that in making out a certificate in regard to an accident, it should be handed when completed to the patient himself or his representatives. By not giving the certificate to any one but the victim of the accident, the physician is relieved from the risk of breach of the professional obligation to secrecy. The certificate should be read to the victim or his representatives and the technical terms explained to them so that they can not plead ignorance of their meaning later. Unless objective signs of a pathologic taint, not affecting the trauma, are discovered, it is unnecessary to certify to it, and the patient's statements in regard to a pathologic past for which no objective findings can be detected should be regarded as confidential. The discussion was suggested by a recent case in which a workman sued the physician for $400 damages because in his certificate he mentioned the presence of gonococcal urethritis. The case was non-suited finally.

TORSION OF PEDICLE OF AN OVARIAN CYSTOMA IN A YOUNG GIRL

M. BORNSTEIN, M.D.
MILWAUKEE, WIS.

A number of cases of ovarian cysts with twisted pedicles in girls below the age of fourteen are to be found in medical literature. Nevertheless, there is a common liability of overlooking this condition and in differentiating it from the more common inflammatory conditions in the lower abdomen. The following case should be of interest:

History.—B. S., female, aged 13; had never menstruated, but for three months past had complained of periodic attacks of pain, usually at the end of each month, starting in the right knee, appearing in the thigh and groin of the same side. Right hip-joint was normal. A physician diagnosed the first attack one of appendicitis but operation was refused. On the evening of March 31 she had a similar attack with a sharp pain in the right iliac region; developed fever and vomited. She was examined next morning, but her physician could find no local tenderness on palpation. The abdomen was distended and vomiting continued; the pulse became rapid and feeble.

Operation.—She was admitted to Mount Sinai Hospital on the evening of March 31 and operated on in the clinic of Dr. H. Greenberg. Abdomen was opened over the right iliac fossa. A local peritonitis was present. The appendix appeared normal but contained several dried-up concretions. Palpation disclosed a large cystic mass springing from the right side of the pelvis. It was found to be a large ovarian cyst, about the size of a man's head, with its pedicle completely twisted. The cyst was emptied and removed. Its contents were fluid and straw colored; the wall bluish and contained several yellowish, thickened masses. The appendix was removed and the abdomen closed.

During the same month Dr. Greenberg operated on a young woman (24 years old) for the same trouble. She was brought in with a diagnosis of acute appendicitis. Incision disclosed a blackened ovarian cyst with a completely twisted pedicle. Both patients have been discharged, cured.

733 Central Avenue.

Therapeutics

THE PREVENTION OF CONTAGION

Perhaps the most valuable service a physician renders is the prevention of the spread of contagious disease in the family of his patient, and the prevention of the spread of disease in the community. While Boards of Health assume the responsibility of preventing the spread of the contagion, it is only in exceptional instances that they can assume the whole responsibility, and if the physician who has charge of the patient is not efficient in his sanitary measures, the advice, orders and restrictions of the Board of Health become almost valueless. Therefore, it is not only the highest aim, but it is the duty of the attending physician to isolate the patient and to prevent the spread of the contagium that others shall not acquire the disease.

To prevent contagion properly, the most important prerequisite is that the physician shall understand the means by which the contagium of each particular disease is spread. Dr. A. H. Doty, Health Officer of the Port of New York, in the *American Journal of the Medical Sciences*, July, 1909, discusses this subject, and his long years of experience plus his efficiency as health officer makes his advice and his scientific conclusions most valuable.

Yellow fever is transmitted by the mosquito only, and clothing, bedding, and even the excretions of the patient do not carry the infection. Doty believes that the mosquito is the necessary medium for malarial infection, and does not believe that the emanations from swamps and stagnant water can produce it. Consequently these two diseases, and the former especially, may be prevented by any means that prevents mosquito bites, and an infected patient may be prevented from infecting mosquitoes by surrounding him with mosquito netting, or by keeping him in rooms which are mosquito proof, and such management will prevent the infection of others.

It has been proved that plague is not transmitted by fomites, but by the rat through the intermediary carrier of fleas.

Doty believes that there is no proof that clothing, rags, etc., constitute an active agency in the transmission of smallpox, typhus, measles and scarlet fever, and believes that in instances of the outbreak of these diseases that seem to show such means of the transmission of the contagium may always be, by careful investigation, traced to positive active sources of contagium. The clothing transmission theory of children's diseases especially is gradually being disproved by school inspection by medical men. This school inspection has shown that children who are apparently well are really carriers of the various children's diseases. This is especially true of diphtheria, and even of scarlet fever and measles. Children are often ill several days before they show sufficient symptoms to be either sent home from school or to be retained at home by their parents, and during this period of the early stage of the disease they are direct transmitters of the infection. It is also now a well-known fact that patients who have recovered from diphtheria may carry germs in their throats for weeks and even months, and are direct distributors of infection. Typhoid carriers are now known to exist perhaps in every community, and the contamination by their excretions of water and milk supplies has been proved beyond question.

Doty says that, however dirty, soiled or nasty rags, that come from all parts of the world, may be, he has yet to find conclusive or satisfactory evidence that either domestic or foreign rags act as a medium of infection.

He does not believe that paper money or coins, however filthy and old, are transmitters of infection. Otherwise bank clerks and treasury department clerks would be constantly subject to infection. As a matter of fact, they are subject no more to contagious diseases than are men and women in other employments. Careful investigations by W. W. Hilditch, of the Sheffield Laboratory of Bacteriology and Hygiene at Yale University, has caused him to come to the conclusion "that money constitutes an unimportant factor in the transmission of disease."

A senior student in the Yale Medical School two or three years ago also investigated bacteriologically a series of soiled public library books, and his investigations showed that the transmission of disease by this means must also be very rare.

Contagium must then emanate ordinarily from the patient himself and from his various secretions or excretions. Which one of these carries the greatest amount of the particular contagium depends on the particular disease. Certain it is that not sufficient hygienic or sanitary care is taken by the physician, nurse and family of the patient's secretions and excretions. Ordinary disinfection of stools and sputum with chlorid of lime, carbolic acid, corrosive sublimate and even formalin solutions have been proved not to kill specific bacteria in the central parts of the excreted masses. In other words, allowing sputum and feces to stand, even for several hours, in even strong antiseptic solutions, is an ineffectual method of killing the germs of infectious or transmissible diseases. To be effectual, discharges of all kinds must be thoroughly broken up into minute particles before antiseptic solutions can be guaranteed to kill all germs. The disinfection of privy vaults by the usual methods is simply futile, and deep privy vaults in villages and country towns where there are no sewerage facilities are dangerous to the community in proportion to the depth of the vault. The nearer to the surface of the ground and the more the air and sunlight reaches the deposits, the less the likelihood of drinking water contamination and of persistence of life in pathogenic germs.

All discharges from the mouth, throat and lungs should be received into paper sputum cups. Once or twice a day, oftener if necessary, the cup and the contents should be burned, the container washed in an antiseptic solution, and a new cup given the patient. Discharges from the nostrils should be into gauze napkins, and these should be placed in a paper bag at the head of the bed, and the bag and contents burned. Cleansing pieces of cloth or gauze for the mouth and nose should receive the same treatment, viz., be placed in paper bags and burned.

The urine should be passed into vessels that contain 1 to 500 bichlorid solution, or other strong antiseptic. The urine should then stand in this vessel, which should be covered, for an hour. It is then absolutely disinfected, and may be poured into the closet.

The bowel discharges should be into vessels that contain strong bichlorid of mercury solutions, or chlorid of lime solutions. The fecal clumps should then be thoroughly broken up with a stick, and boiling water, in large amount, poured into the mixture of feces and antiseptic. Enough of the boiling water should be used to raise the mixture almost to the boiling point. After an hour the contents of the receptacle may be considered aseptic and may be poured into the closet. This treatment of the feces should be followed out in typhoid fever, bowel infection, acute diarrhea, cholera, dysentery, acute tuberculosis, intestinal tuberculosis, and in intestinal cancer.

All cloths used in cleansing the body of the patient should be put into paper bags and burned. The clothing of the patient, the bed clothing and the clothing of the nurse should be boiled, if clothing is washable, and what is not washable should be baked.

The nurse should cleanse her hands with weak corrosive sublimate solutions every time that she has in any way come in contact with possible sources of contagion from the patient.

Ideally a sick-room should be flyless; in other words, a fly is an abomination, and the sick-room should be so screened that it will be impossible for flies to penetrate it, whatever the disease from which the patient is suffering. If a patient is out of doors for pneumonia, tuberculosis, or other fresh air treatment, the sputum receptacles should be so arranged or covered that it is impossible for flies to come into contact with the sputum.

The methods here advised being carefully carried out, there will be little necessity for the fumigation of rooms and houses with either sulphur or formaldehyd, which fumigations really carry with them a false sense of security and predispose to carelessness by the nurse and family in the cleanliness and hygiene of the patient and his surroundings.

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[*For other information see second page following reading matter*]

SATURDAY, OCTOBER 2, 1909

FREQUENCY OF HEALED TUBERCULOSIS OF THE MESENTERIC GLANDS

Warthin[1] has carefully examined a large number of lymph nodes, primarily in order to determine the anatomic type of the given gland, and one noteworthy demonstration is the constant occurrence in the mesenteric and retroperitoneal lymph nodes of adults of small hyalin masses. These hyalin masses stain red with acid dyes (eosin and fuchsin) and occur in any part of the node, more frequently, however, in the cortex; they are usually round with sharp borders, varying in size from minute microscopic points to small masses visible to the naked eye. In the larger masses a few nuclei are present; the smaller may be wholly devoid of nuclei, suggesting their being older, while the larger show various stages of a hyalin change in the connective tissue replacing some lesion. These hyalin masses are hyalin scars. In the center of larger masses small deposits of lime salts often occur and reactions for iron may also be obtained. The hyalin masses are easily distinguished from the diffuse hyalin change of the stroma of atrophic nodes and also from hyalin blood vessels.

The interpretation of these masses is an interesting question. Warthin believes that they can not be explained as the result of retrogressive changes associated with senile atrophy and fatty infiltration, because they occur at all periods of life, even in the young, and unassociated with other retrograde changes. Indeed, nodes with hyalin masses may be markedly hyperplastic. Warthin's interpretation is that the hyalin masses in the majority, if not in all of the cases, are tuberculous in nature. He bases this conclusion in part on the fact that in advanced pulmonary tuberculosis the abdominal lymph nodes constantly show nodules in all steps of transformation from the young and miliary epithelioid tubercles to small deeply staining hyalin masses, showing conclusively, it would seem, that hyalin transformations like those described can result from the healing of small tubercles. In other cases of small masses in the mesenteric nodes undergoing hyalin change, a minute caseous center or a single giant cell would serve to indicate the tuberculous nature of the process, even though the hyalin transformation was far advanced. In two cases active miliary tubercles associated with miliary hyalin masses in various stages of formation from tubercles were found, while tuberculosis was not discovered in any other part of the body, indicating that primary mesenteric tubercles may heal with formation of hyalin masses. In most of the cases in which hyalin masses were found, no active tubercles were discovered in the body. But even here the form and character of the hyalin mass indicated healed tubercle. According to Warthin, these hyalin masses are most common in the mesenteric, cervical and bronchial nodes, but are rare in the axillary nodes except in cases of tuberculosis of the breast. This distribution is also suggestive of their tuberculous nature. They are rare in the tonsils.

Assuming that the hyalin masses represent healed tubercles, and in view of the fact that they occur so constantly in the abdominal nodes, the conclusion seems forced on us that the tubercle bacilli enter the body through the intestine much more commonly than has been assumed. In cases of pulmonary tuberculosis the bacilli may gain entrance to the mesenteric nodes from the swallowed sputum carried down into the intestine, but in the absence of pulmonary or other foci of tuberculosis the bacilli must have been introduced either in dust swallowed with saliva or in food.

If the hyalin masses actually represent healed tuberculous lesions, at least in the majority of cases, then, it would seem certain that all adults receive tubercle bacilli through the intestine; and, if this be accepted, then it would be reasonable to attribute pulmonary tuberculosis, at least in many cases, to enterogenous origin, because if bacilli so commonly enter the mesenteric and retroperitoneal lymph nodes they may readily pass on through the thoracic duct to the lungs and bronchial nodes.

TRANSMISSION OF SLEEPING-SICKNESS

Probably the two most important problems now confronting those who are investigating sleeping-sickness are: (1) the method by which tsetse flies transmit sleeping sickness and other trypanosomatic infections; (2) does the trypanosome undergo a complicated (probably sexual) development in the fly?

For some time the belief has been prevalent that transmission is of the simple mechanical type, i. e., that the fly draws infected blood into its proboscis and stomach and later, when feeding on a second animal, injects some of the contaminated blood, thus transferring the disease. This conclusion has been based chiefly on the fact that the flies seemed to lose the power of transmission soon after feeding on an infected animal.

A number of experiments, however, seemed to cast doubt on the mechanical method as being the sole process, and the question has arisen as to whether there may be two methods—the first the mechanical, operating soon after the feed on an infected animal, and the second a "biologic" method, coming into action later and depending possibly on a sexual evolution of the parasite in the fly, as happens in relation to the mosquito and malaria. Trypanosomes disappear from the alimentary tract of the fly so soon after its feed on infected blood that Bruce considered it virtually impossible that mechanical transmission alone could explain the situation.

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[1] Sixth International Congress of Tuberculosis.

Recent experiments of Kleine, which have been confirmed by Bruce, contradict some of the previous results.[1] In Kleine's experiments, the flies, *Glossinæ palpales*, were caught fresh from Nature, fed once on monkeys *(Cercopithecus rufoviridis)* which were infected with sleeping sickness (*Trypanosoma gambiense*) and then tested on fresh monkeys every second day. Large numbers of flies were used; thus 336 fed on the first monkey and 225 on the last. All the monkeys became infected, the last one twenty-two days after the beginning of the experiment. In another experiment by Taute, which is reported by Kleine, infection was produced on each of the first three days after feeding. From the fourth to the tenth day no infection resulted. The flies then became infective again, and produced disease from the eleventh to the forty-fourth day.

From these experiments it is concluded that transmission is not purely mechanical, but that flies are true hosts for the trypanosomes. From other experiments with flies, hatched in the laboratory, Kleine concludes that the period of development, or incubation period, in the fly is about twenty days, or a little less. These are important experiments and seem destined to be of great significance for the campaign against sleeping sickness.

Much of the experimental work with tsetse flies and trypanosomes has suffered from lack of sufficient control. Too often in dealing with flies caught from Nature, the possibility of some of them being naturally infected (an event known to occur) has been neglected. Also, as Novy has emphasized, and as Minchin has virtually proved, tsetse flies may harbor, naturally, nonpathogenic as well as pathogenic trypanosomes, a fact which impairs the value of a great deal of the microscopic work which has been done. As a means of avoiding the accident of dealing with naturally infected flies, the custom of using flies which have been bred and raised in the laboratory is being resorted to. Here, again, the possibility of the hereditary transmission of trypanosomes may be a confusing one, and one which is so fundamental that it demands early determination. This is appreciated by many workers in the field.

For unimpeachable work along these lines it would seem to be an unqualified necessity to deal with pure cultures of the parasites, as Novy has suggested, with flies which are known to be absolutely free from trypanosomes, and with experiment animals which have never been exposed to trypanosomatic infection. The pertinence of these points is doubtless realized by those who are engaged in the practical study of the problems. The difficulties are great, but, in spite of this, the progress which has been made is of no small magnitude.

A STANDARD CURRICULUM FOR MEDICAL COLLEGES

It is extremely doubtful whether the medical profession as a body really appreciates the far-reaching influence of the splendid work that is being done by the Council on Medical Education of the American Medical Association. The collection of data regarding medical colleges, students and graduates, begun by THE JOURNAL nine years ago, and of data giving the results of state licensing boards' examinations, begun by THE JOURNAL six years ago, revealed the great need of such a permanent committee as the Council on Medical Education and, in fact, furnished a foundation for the council's work. By the actual inspection of medical colleges, by annual conferences with members of state licensing boards and in other ways, the council has extensively developed these statistics, obtained an enormous amount of other valuable educational data and has used them in a most practical and effective manner. Reports of much of the work of the council are published regularly in THE JOURNAL, but from lack of space much more, although none the less valuable, can receive only brief mention.

Probably no work which the council has done is more important than the preparation of a standard curriculum for medical colleges, the report of which is referred to on page 1115. In the preparation of this standard, everything possible was done to insure that it would represent the harmonized ideas, if not the ideals, of as large a number as possible of the leading medical educators, who were selected from all sections of the country. The subjects of the medical curriculum were arranged in ten groups, to be taken up by subcommittees for which ten chairmen were carefully selected. These chairmen were asked to name fifteen leading educators in their particular departments, and from these lists nine other members for each subcommittee were secured. A suggestive outline of the points to be considered was prepared; but each subcommittee was left free to take up the study of the problem relating to its particular subject in its own way, and, after careful study and deliberation, to submit a report to the council, making specific recommendations regarding that particular subject. The work was entered into with an energy and enthusiasm that were astonishing, numerous meetings of committees were held and a large amount of systematic correspondence was carried on, not only with those comprising the regular subcommittees, but also with numerous collaborators and corresponding members. More than an entire year of close application was spent before the reports were finally completed. In order that the work of the subcommittees might not be too much at variance, a preliminary meeting of the ten chairmen was held and, just before the final reports were prepared, these chairmen met again and determined on the curriculum which was to be recommended. The standard presented, therefore, represents the work not only of the one hundred educators who made up the ten subcommittees, but also of many others who acted as collaborators and corresponding members. It needs but a glance at the list published in the Department of Medical Education to show the high standing and reputation of those who cooperated in the preparation of the curriculum and the breadth of the field covered.

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[1] These experiments are described in the *Bulletin of the Sleep-* [illegible] . 7, 1909. Prof. Kleine's article "*Weitere* [illegible] *chtungen über die Entwicklung von Try-* [illegible]" appeared in the Deutsch. med. Wchnschr., May 27, 1909, pp. 924-925. Bruce's announcement appeared in a letter to the Royal Society.

Since there has begun an extensive reconstruction of medical teaching in this country, as illustrated by the numerous mergers of colleges, and the rapid movement toward higher standards of preliminary education, the presentation of this standard curriculum is all the more important and timely. It will bring about not only a greater uniformity of curricula in our medical colleges, but will result in each branch being allowed an amount of time proportional to its value and importance. It will also tend to prevent the overcrowding of the curricula with non-essential subjects and details. Although absolute uniformity of curricula for all colleges is not to be recommended, comparative uniformity is highly desirable in the interests both of medical education and of interstate reciprocity in the licensing of physicians.

The standard recommended reflects great credit on the Council on Medical Education as well as on the members of the various committees who have contributed so much valuable time and careful thought to its preparation. The report is well worth a careful study by those interested in modern scientific medical education.

PELLAGRA

Although it is hardly more than two years since the presence of pellagra in the southern states was recognized, it has been found that the disease is a widespread one and new cases and localities of its occurrence are being constantly reported. It is, moreover, not confined to any one section of the country and is being discovered in such widely separated localities as Massachusetts and Arkansas and possibly even further west. It has appeared in at least three state hospitals for the insane in Illinois, and in one or two of them in such numbers as to assume the proportions of a small epidemic. It has not been reported as yet from any large number of northern localities and its distribution seems somewhat local. Probably, as in the case of some other new disorders to which attention has been suddenly called, the apparent sudden prevalence is due, partly at least, to faults of previous observation. Thus Dr. Lavinder, whose report has been noticed in THE JOURNAL,[1] mentions the fact that the medical staff could recall that cases had been in the institution years before the present outbreak in the Illinois State Hospital at Bartonville, and very probably this is the case elsewhere to some extent. The late accounts, however, would indicate a much greater prevalence than ever before, and it is hardly probable that such local outbreaks of the disease could have occurred in any locality without being observed and properly diagnosed. Asylum physicians have been acquainted with the disease, at least in their reading, and some have been on the lookout for it without being able to identify it in the patients under their care. At most, the cases that have occurred must have been scattered and only sporadic ones.

It may, therefore, be considered a new disease in the United States, and its occasional occurrence heretofore may perhaps be explainable by such idiosyncrasies as are reported in Dr. Hewitt's patient and his relatives in his communication published in this number on "Pellagra in Virginia." While predisposition has been recognized in the etiology, an idiosyncrasy to corn products, such as that reported by Dr. Hewitt, is novel and suggestive. Besides possibly accounting for sporadic cases it would indicate the possibility of some toxic element in the grain that may not be ordinarily effective in producing the disease unless its virulence is greatly enhanced from some cause or other, or the individual is specially susceptible. Case-histories should be carefully studied as to this point, and the physician who runs across a case in his practice should give careful attention to the family history as well as the personal antecedents of the patient. The local distribution should be thoroughly traced and its occurrence in the immigrant population of the asylums should also be carefully studied. There is no evidence, according to Dr. Lavinder, that the disorder had any connection with the feeding of the patients in the Bartonville hospital. It must have originated elsewhere and before their admission. He says that he is unable to assign any satisfactory local cause for the extent of the disease in the Bartonville epidemic, and that the housing, feeding and care of the patients in the institution are above criticism. The facts that practically all of the cases of pellagra in this country have been found in institutions for the insane, and that they present the severe type of the disease usually seen in a late stage, suggest that these cases are old ones which have gravitated to the asylums because of the dementia characteristic of the disease. In at least one case of pellagra in an advanced stage, this had presumably occurred, for the patient had within six months arrived in this country from a pellagrous district of Europe.

We have, therefore, a new public health problem which, though extensively studied in Europe for many years, cannot be regarded as definitely solved. The observation of the disease in its beginnings will have to be made largely by the general practitioner, and it seems probable that there will be considerable opportunity for the profession to study the disease in this country. While pellagra is insidious in its course, the symptom-complex is fairly characteristic even in its early stage. This complex consists of gastrointestinal disturbances with "bald" red tongue, erythema of the exposed extremities and center of cheeks, spinal irritation, with probable pain in back and disturbance of the knee-jerks, and mental depression of varying degree. The skin symptoms, in themselves unimportant, give a very significant clue to the diagnosis, for, in the first place, there is no other disease with cutaneous lesions presenting a closely similar group of constitutional symptoms, and in the second place the cutaneous lesions themselves, after they have become well developed, are unlike those of any other cutaneous disease. The diagnosis must be made early in the disease if the patients are to be saved. Practitioners should be alive, therefore, to the possibility of its occurrence. In doubtful early cases it would seem to be the part of wisdom to make a provisional diagnosis of pellagra, for nothing will be lost by removing corn products from the diet and giving the patient the hygienic treatment indicated.

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[1] The notice of Dr. Lavinder's report which should have appeared in the department of General News was through an oversight published as editorial matter in THE JOURNAL, Sept. 25, 1909.

Medical News

ARKANSAS

National Guard Notes.—Major L. R. Ellis, Hot Springs M.-C., A. N. G., announces that arrangements are being made to increase the membership of the hospital corps of the guard to 36, the number allowed under the new law.

Personal.—Dr. Avery Moore, formerly state auditor, has resigned as a member of the state tax commission.——Dr. J. E. Quidor, Little Rock, has been appointed a member of the Pulaski County Board of Health, vice W. H. Abington, resigned.

Society Organized.—Dallas County Medical Society was organized at Fordyce, September 9, and the following officers were elected: Dr. Claiborne J. March, Fordyce, president; Dr. O. R. Kelley, vice-president; Dr. Thomas L. Rives, Fordyce, secretary; and Dr. William L. Worthington, Fordyce, treasurer.

Medical Schools Open.—The Medical Department of the University of Arkansas, Little Rock, opened September 30.——The College of Physicians and Surgeons, Little Rock, opened October 1. Drs. Luther D. Reagan. Little Rock, and George H. Martindale, Hope, have been added to the faculty of the college.

Dropped from Register.—Dr. George A. Hinton, Hot Springs, is said to have been dropped from the list of registered physicians at that place, August 6, by the superintendent of the government reservation, acting under instructions from the Department of the Interior. He will be denied the privilege of prescribing the waters until his name is restored to the list.

New Medical Practice Act in Effect.—The new law regulating the practice of medicine went into effect August 6. Under the provisions of this law the number of state medical board meetings is cut down to two a year; and the revocation of licenses for criminal and persistent inebriety, the practice of criminal abortion, either principal or abettor; for the conviction of crime involving moral turpitude; for the public advertising of special ability to treat or cure chronic or incurable diseases; for representation to a board of any license, certificate or diploma, illegally or fraudulently obtained, or the practice of fraud or deception in passing an examination, is authorized. The board is also authorized to make agreements of reciprocity with the examining boards of other states.

CALIFORNIA

Nurse Dead in Hospital Fire.—St. Caroline's Hospital, Redding, a two-story frame building, was destroyed by fire September 19, with a loss of $18,000. The seven patients were removed in safety, but one nurse was burned to death.

Hospital News.—The new Methodist Hospital, Los Angeles, with accommodation for twenty patients, was opened September 8.——The contract has been let for the construction of a new Childrens' Hospital, San Francisco, to cost about $200,000.

Tuberculosis Stamp.—The California Association for the Study and Prevention of Tuberculosis has issued a special stamp, designed to serve the same purpose as the Red Cross stamp that was sold throughout the country by millions last year.

Sub-Society to Be Formed.—On September 17, Kenneth A. Millican, president of the Alameda County Antituberculosis Society, and Dr. William Von Adelung, first vice-president of the society, went to Alameda and formed a sub-society in that city which will be under the direction of Dr. Weston O. Smith.

News of the Day in Hospitals.—The California Hospital, Los Angeles, has introduced permanently the dissemination of the news from the daily press to the patients of the institution. The contents of the newspapers of the day are communicated to the nurses at luncheon and imparted by them to the patients later in the day.

Guests of Faculty.—The annual banquet of the students of the graduating class of the Oakland College of Medicine and Surgery, by the faculty of the college, was held September 14. Dr. Hayward G. Thomas, president of the college, acted as toastmaster, and Dr. Creighton Wellman, professor of tropical medicine, gave an address on "Tropical Diseases."

Personal.—Sir Augustus Waller, director of the physiologic laboratory of the University of London, delivered a series of five lectures at the University of California, Berkeley, beginning September 20, on "Physiology, the Servant of Medicine."——Dr. Newell H. Bullock has been appointed medical inspector of schools of San Jose.——Dr. Claiborne W. Evans, Modesto, has returned from Europe.

CONNECTICUT

Unlicensed Practitioner Fined.—George A. Wilbur, alias Albert Cole, arrested in New Haven on the charge of practicing medicine without a license, is said to have been found guilty and fined $100 and costs.

Personal.—Dr. William S. Hulbert, Winsted, medical examiner, had his left eye enucleated August 19.——Dr. William F. Wood, Danbury, is said to have been adjudged insane and committed to the State Hospital, Middletown.

Tuberculosis Commission Organized.—The State Tuberculosis Commission, at its meeting for organization August 26, elected Dr. John P. C. Foster, New Haven, chairman, and George I. Allen, Middletown, secretary. The commission applied for rooms for a permanent office in the capitol.

State Board of Health Organized.—At the annual meeting of the State Board of Health, the following officers and committees were appointed: President, Dr. Edward K. Root, Hartford; secretary-treasurer, Dr. Joseph H. Townsend, New Haven; director of laboratory and bacteriologist, Dr. Herbert W. Conn; member of board of examiners and embalmers and registrar of physicians for State Board of Health, Dr. Joseph H. Townsend.

Tuberculosis Legislation.—The state legislature has enacted three important antituberculosis laws—the first prohibiting spitting in public places; the second, requiring physicians to report to the local health officer all cases of tuberculosis coming under their care, and giving such instructions as will provide for the safety of persons occupying the same house or apartment, and the third appointing a board of directors to establish county homes for the care and treatment of those suffering from tuberculosis. It is proposed to establish three of these homes. An appropriation of $175,000 has been made for that purpose, with $75,000 additional for maintenance. This appropriation with $50,000 given to aid the Gaylord Farm Sanatorium, Wallingford, Wildwood Sanatorium, Hartford, and Undercliff Sanatorium, Meriden, make a total of $300,000 appropriated by the state for tuberculosis work during the next two years.

DISTRICT OF COLUMBIA

Conflicting Opinions.—The name of John R. Early, the supposed leper, who has been receiving a pension of $72 a month because of total disability, is said to have been stricken from the roll of the pension bureau, as he has been found entirely free from the disease. Dr. G. Armauer Hansen announced September 24 that he had found the bacillus of leprosy in a specimen of Early's skin sent to him for examination.

Personal.—Dr. A. H. Sutherland has been appointed assistant in psychology at the Government Hospital for the Insane, Washington.——Major Frederick S. Russell, U. S. A., professor of pathology in the Army Medical School, and curator of the Army Medical Museum, has been selected to succeed Dr. Joseph J. Kinyoun as professor of pathology and bacteriology in George Washington University.——Dr. William P. Wood of the Episcopal Eye, Ear and Throat Hospital, by presence of mind prevented a fire panic in the institution September 8, but sustained severe burns of the hand in extinguishing the fire.

ILLINOIS

Personal.—Dr. Albert J. Roberts, Ottawa, has been reelected physician of LaSalle county.——Dr. Emery W. Goembel, Rockford, has been appointed physician of Winnebago county.——Dr. Walter S. Eshbaugh, Marengo, has been appointed deputy coroner of McHenry county.

Chicago

Personal.—Drs. G. F. Fiske, L. L. McArthur, A. D. Bevan, John B. Murphy and G. Paull Marquis have returned from Europe.——Dr. William W. Meloy was operated on for appendicitis at the Passavant Hospital, September 19.

Municipal Laboratory Moves.—The municipal laboratory has been moved from the corner of Franklin and Madison to 218 Washington street, where it has leased 2,000 more square feet of space at an annual reduction of $2,000 in rent.

Buys Postgraduate School.—Financial control of the Post-Graduate Medical School and Hospital of Chicago, which has been held by Dr. Franklin H. Martin since its organization in 1888, has been sold to Dr. William L. Baum, a member of the board of directors for fifteen years, and for several years treasurer of the institution. Dr. Emil Ries has been elected secretary, vice Dr. Franklin H. Martin, resigned, and Dr. Otto J. Stein a director, vice Dr. Frederick A. Besley, resigned.

KANSAS

Personal.—Dr. Clifford C. Nesselrode has been appointed city chemist and bacteriologist of Kansas City.——Dr. Elmore S. Pettyjohn, Topeka, has been elected a vice-president of the medical section of the National Fraternal Congress.

Bakeries Must Be Sanitary.—Cardboard posters have been sent out by the secretary of the State Board of Health for distribution to the bakeries, containing rules governing the sanitary condition of bakeries, which will be strictly enforced.

State Tuberculosis Exhibit.—The Kansas Tuberculosis Exhibit, which has been on exhibition in various towns of the state for about six weeks, is attracting a great deal of attention and a schedule has been arranged for to the first week in January.

MARYLAND

Baltimore

Acquitted.—Dr. Louis M. Harrison, charged with passing bogus checks, and confined in jail since last May, has been acquitted in the criminal court.

Spratling May Resign.—It is rumored that Dr. William P. Spratling, professor of physiology and nervous diseases in the College of Physicians and Surgeons, is about to resign, and will open a sanatorium at Summit, N. J.

Mayo to Lecture.—Dr. Charles H. Mayo, Rochester, Minn., will deliver two lectures at the University of Maryland, November 9 and 10, on "Diseases of the Thyroid Gland," and on academic day he will receive from the university the honorary degree of LL.D.

Personal.—Dr. Frank J. Sladen sailed for Europe September 22.——Mrs. Fabian Franklin, Johns Hopkins University, has returned from attendance at the Congress of Psychology, Geneva.——The mayor has nominated Dr. William H. Welch as a member of the new charter commission.——Dr. F. E. Vest has sailed for Europe.

Harriet Lane Home.—The Harriet Lane Home for Invalid Children about to be constructed at Johns Hopkins Hospital is to cost about $200,000. The buildings will conform in construction with the rest of the hospital group. The main building will be 133x65 feet, but the entire space covered by the building and observation wards will be 133x160 feet. The building will be four stories high, with a modern roof hospital, and 102 beds, all of which will have access to open or semi-open porches.

Medical College Changes.—The annual session of the Baltimore Medical College opened September 20, with an address by Dr. Ridgely B. Warfield. The following faculty changes were announced: Dr. Alexander D. McConachie has been elected professor of diseases of the ear, nose and throat; Dr. William S. Love, professor of therapeutics; Dr. Irvin Ebaugh, professor of materia medica; Drs. Josiah S. Bowen and Frank J. Powers, associate professors of diseases of the ear, nose and throat; and Dr. A. C. Beethan, dispensary physician.

MASSACHUSETTS

Bequest.—By the will of Lucius Clapp, Randolph, $5,000 is devised to the Massachusetts General Hospital, Boston, for the establishment of a permanent free bed.——By the will of the late Patrick Cassidy, a hackman of Boston, $100 is bequeathed to Carney Hospital.

Smallpox on Liner.—The steamship *Romanic*, which arrived from the Mediterranean September 9, was held at quarantine five hours on account of two persons with smallpox being among the steerage passengers. The 1,117 steerage passengers on the boat were revaccinated.

Unregistered Practitioner Fined.—Richard H. Farrell, Everett, charged with practicing medicine without having registered, is said to have been fined $100 in the Malden court, September 10. The defendant claimed to hold an A.B. from Bellevue, and a medical degree from Boston University, but was unable to pass the state examination in March, May and August, 1909.

Infant Hygiene.—At a meeting of Boston physicians August 26, presided over by Dr. Walter B. Cannon, secretary of the committee on milk and baby hygiene, an appeal was made for new milk stations at Grove Hall and Roxbury Crossing. The following officers were elected: President, Dr. Charles W. Townsend; vice-presidents, Drs. John L. Morse, Ralph C. Larrabee and Rocco Brindisi; secretary, Dr. John M. Connolly, and treasurer and director, Walter E. Kruesi.

Floating Hospital Work.—During the ten weeks from June 30 to September 7, in which the Boston Floating Hospital was in operation, 17,665 days' service were enjoyed by babies and mothers, divided as follows: Seven thousand one hundred and twelve days' service for poor patients, day and night; 4,848 days' service for day patients; 831 days' service for other children, and 4,847 days' service for mothers.——The sixteenth season of the hospital closed September 15, with the customary cruise in the harbor.——Dr. John Warren Bell, for two years resident physician, has resigned and will return to private practice in Brooklyn.——During the season 144 children died on the boat.

MISSISSIPPI

A Deadly Trio.—The Mississippi State Board of Health has issued an illustrated poem entitled, "Three Dangerous Toughs," namely, liquor, the house-fly, and the anopheles.

Improvements at University Hospital.—In addition to the original contract on the University of Mississippi Medical Building and Hospital, Vicksburg, a contract is to be let connecting the two buildings and making such improvements and interior work as may be deemed necessary before the new building is completed.

Cocain Prescriber Fined.—Dan W. Sherrod, a colored physician and druggist of Meridian, is said recently to have been convicted and fined for illegal sale of cocain. He claims that a favorite prescription of his was cocain hydrochlorate and acetanilid, equal parts, used for ulcers and wounds, but witnesses for the state, negroes arrested in a cocain debauch, swore that they regularly obtained the drug at Sherrod's drug store.——A druggist named Thorne of the same city is said to have been convicted at the same time on a similar charge and fined the same amount—$50 and court costs.

NEBRASKA

Change in Management.—Dr. Charles L. Egbert, Glenville, has assumed management of the hospital in the Madgett Flats, Hastings, which will hereafter be known as the Egbert Hospital and Sanitarium. Dr. John W. Greenman will be in charge of the surgical department.

Personal.—Dr. Robert Henry Wolcott, Lincoln, has been appointed acting dean of the Medical College of the University of Nebraska.——Dr. F. J. Peter, Omaha, has returned from Europe.——Dr. N. T. Johnston has been appointed a member of the board of health of Upland.

Presentation to Dr. Ward.—At a luncheon given in Omaha on September 3, in honor of Dr. Henry B. Ward, formerly dean of the Medical Department of the University of Nebraska, Lincoln, who has accepted the chair of zoology in the University of Illinois, Champaign, his colleagues presented him with a gold watch.

Double Red Cross Camp.—The State Board of Health has designated Tabitha Hospital, Lincoln, as a place where counties may send indigent curable consumptives. The hospital will be known as "The Double Red Cross Consumptive Camp." It is situated in the park just north of Tabitha Hospital, and is under the medical direction of Dr. Julius H. Tyndale.

NEW YORK

The Antituberculosis Conflict.—A gift of $10,000 has been made to the fund for the tuberculosis pavilion to be erected at Albany Hospital by an anonymous benefactor. The fund now amounts to $21,000.——The Board of Health of Poughkeepsie has decided to use the Eastman house for tuberculosis patients when the weather becomes too cold to allow them to remain at Camp Comfort.——The Orleans county branch of the State Association for the Prevention of Tuberculosis has been organized with Dr. Ralph Earle Brodie, Albion, secretary.——Dr. Zina Gifford Truesdell, Warsaw, has been elected first physician of the Wyoming County Antituberculosis Society.——The state health commissioner has approved the application of the Workingmen's Circle, a fraternal organization, to establish a tuberculosis sanatorium for its members at Liberty.

New York City

New Hospital for Long Island.—The Sisters of the Poor of St. Francis will erect a hospital to cost about $500,000 at Woodhaven, Queen's Borough, to be known as St. Anthony's Hospital.

To and From Europe.—Dr. and Mrs. John Elmer Weeks, New York City; Dr. John Osborn Polak, Brooklyn, and Dr. Gustav G. Fischlowitz, New York City, have returned from Europe.——Dr. and Mrs. George W. Jacoby have sailed for Europe.

School Acquires Property.—The trustees of the New York Policlinic Medical School and Hospital have taken title to properties at 339-349 West Fiftieth street and 346 West Fifty-first street, on which they expect to erect a hospital in the near future.

Increase in Typhoid Fever.—For the week ended August 7, there were 72 cases of typhoid fever reported; for the week ended August 14, 71; for the week ended August 21, 74; for the week ended August 28, 158; for the week ended September 4, 181; for the week ended September 11, 285; and for the week ended September 18, 276.

People's Hospital.—Plans have been filed for remodeling an old-fashioned four-story and basement dwelling on Second avenue into a home for the proposed People's Hospital; the necessary improvements will cost about $15,000 and will provide for a dormitory, wards and private rooms, operating and sterilizing rooms and nurses' room.

Bequests.—Emma A. Tillotson has given in bequests $175,000 to the Woman's Medical College, the Home for Old Men and Aged Couples, St. Luke's Hospital, Bernard College, the New York Society for the Ruptured and Crippled, the Home for Incurables, the Metropolitan Museum of Art, the New York Institute for the Blind, and the American Society for the Prevention of Cruelty to Animals.

Inquiry Into Typhoid.—More than 1,000 cases of typhoid fever have been reported to the Board of Health during the past ten weeks. The distribution of the cases is such that they cannot well be attributed to returning vacationists, and it seems quite probable that the Croton water may be to blame. Thus far the Board of Health cannot ascertain that there is any more typhoid fever in the watershed than usual. It is supposed by some that the heavy rainfall in August after a long drouth was instrumental in washing infected matter into the streams that supply the city.

The Hudson-Fulton Celebration.—Medical emergency stations are being operated during the Hudson-Fulton celebration under the direction of the Committee on Public Health and Convenience, and are divided into two classes: Field hospitals, open day and night, of which there are twenty-three, and first-aid stations, located every few blocks along the route of the land parade and along the Manhattan shore of the Hudson River. These hospitals and stations are furnished, equipped and provided with doctors and nurses by the New York county branch of the Red Cross Society and by the National Volunteer Emergency Service. To supplement the regular city ambulance service, a number of extra ambulances have been secured and these are utilized to transfer serious cases to the city hospitals. Fast ambulance launches patrol the river in the vicinity of the warship anchorage and accompany the naval parade. Ambulance stations are located at several piers to facilitate the transfer of patients from the launches to the hospitals. The hospitals of the city have made preparations to increase their normal capacity to a considerable extent during the celebration. The services rendered at any of the Public Health and Convenience Committee's stations are entirely free of charge to the public. Dr. Eugene H. Porter is chairman of the Public Health and Convenience Committee.

Buffalo

Tag Day.—The yield of "Tag Day," September 18, was more than $9,100, or $1,100 more than the estimate. This amount is to be devoted to the work of the District Nursing Association.

Will Continue to Use Hospital.—The Board of Health has decided to continue using the temporary hospital for scarlet fever which was condemned by the health commissioner, and the commissioner of public works is to decide what improvements are necessary to make the building habitable until a permanent building may be built.

NEW JERSEY

Donation to Hospital.—Mrs. James M. Jarvis, Montclair, has donated $6,000 to the Mountainside Hospital in that city.

Personal.—Dr. William Todd, Tom's River, has been selected as medical inspector of the Dover township schools.——Dr. Katherine Porter has been appointed medical inspector of the public schools of Orange.

Tuberculosis Commission Named.—In accordance with the law passed by the last legislature, creating a State Tuberculosis Commission, the governor, on September 17, named as members of that body, Right Rev. James A. McFall, Bishop of Trenton; William G. Cirhauffler, Lakewood; Sidney G. M. Colgate, Orange; William C. Smallwood, Newark, and Mrs. William T. Dayton, Trenton.

August Deaths.—During August, there were 3,255 deaths reported to the Bureau of Vital Statistics, 1,040 of which were children under 1 year of age; 291 of children between 1 year and 5 years, and 742 of individuals 60 years old or over. Chief among death causes were infantile diarrhea, 656; diseases of the nervous system, 355; tuberculosis, 325; diseases of the circulatory system, 271; nephritis, 179; cancer, 164; pneumonia, 114; whooping cough, 31; typhoid fever, 29; scarlet fever, 25; diphtheria, 21, and measles, 11.

NEW MEXICO

State Railway Surgeons Meet.—At the annual meeting of the New Mexico Railway Surgeons Association, held in Roswell, September 17, Dr. John W. Colbert, Albuquerque, was elected president; Dr. George K. Angle, Silver City, vice-president; and Dr. Frank E. Tull, Albuquerque, secretary-treasurer.

State Medical Society Meeting.—At the twenty-eighth annual meeting of the New Mexico Medical Society, held in Roswell, September 15 and 16, the following officers were elected: President, Dr. John W. Elder, Albuquerque; vice-presidents, Drs. Francis T. B. Best, East Las Vegas; Robert L. Bradley, Roswell, and Leroy S. Peters, Silver City; secretary, Dr. George S. McLandress, Albuquerque; treasurer, Dr. Abraham H. Faith, Clovis; editor of the *New Mexico Medical Journal*, Dr. Francis T. B. Best, East Las Vegas; associate editors, Drs. John W. Colbert, Albuquerque; George S. McLandress, Albuquerque, and Leroy S. Peters, Silver City; and council, Drs. George W. Harrison, Albuquerque; Charles M. Yater, Roswell, and Samuel D. Swope, Deming. The next annual meeting is to be held at Albuquerque.

PENNSYLVANIA

Jewish Sanatorium Opens.—The Philadelphia Jewish Sanatoruim for Consumptives, Eaglesville, was formally opened September 22, when 10 patients were admitted. By September 25 50 patients will be cared for. The cost of the sanitarium was $40,000.

To Fight Tuberculosis.—Tuberculosis day was observed throughout Berks county, September 20, when war against the disease was begun by the Tuberculosis Aid Society. Appeals were sent broadcast throughout the county and in Reading $20,000 was raised. It is expected that the surrounding country will raise $5,000 or more. The money will be devoted to the establishment of a sanatorium for the treatment of tuberculosis.

State Society's New Flag.—At the annual meeting of the State Medical Society in Philadelphia during the present week, an official flag was unfurled at its place of meeting. This is the first official emblem in the society's history. The new banner is five feet wide and eight feet long and was the gift of the physicians of Philadelphia. The emblem has a field of the state's color, dark blue, and the state's seal in the center surrounded by the name of the society in white letters.

Enjoined from Practice.—In the case of Dr. John A. Boyd, Pittsburg, against Dr. J. O. Reed, in which the plaintiff claimed that he had bought the practice of the defendant in 1905, the latter agreeing not to engage in practice within two miles of the plaintiff's office, the judge is said to have awarded $600 damages to the plaintiff, and to have enjoined the defendant from practicing medicine in the prohibited locality.

Epileptic Hospital Investigation.—Tales of alleged brutality, mismanagement and misrule on the part of Dr. Henry M. Weeks, superintendent, and other officers and attendants of the new Pennsylvania Hospital for Epileptics and Feeble-minded, Spring City, were placed before a special committee of the board of trustees at a meeting of investigation held September 8. None of the testimony heard was made public, but it was reported that some evidence had developed to support the charges. The institution was opened one year ago and contains at present about 200 inmates, principally boys. The investigating committee is composed of Dr. George R. R. Umstad, Phoenixville; Henry W. Comfort, Falsington, and Dr. Thomas C. Detweiler, Lancaster.

Philadelphia

Released.—Dr. Joseph R. Parke, who was arrested and charged with illegally using the mails, was released of the charge recently by the Federal Grand Jury.

Personal.—Drs. James M. Anders, Alfred Stengel, Eugene L. Vansant, John H. Musser, Francis X. Dercum, George E. deSchweinitz and Donnel Hughes have returned from Europe.——Dr. J. Chalmers DaCosta is confined to the house with an affection of the eyes.——Dr. Joseph F. Harold is to fill the chair of chemistry in the Medico-Chirurgical College during the absence of Dr. George Meeker in Europe.

Typhoid's Decrease.—The report of the Bureau of Health for the first three weeks of September, concerning typhoid fever, shows that 158 cases of that disease have been reported. This is 70 per cent. less than the average for the first three weeks of September for the last three years. The mortality from typhoid fever was 248 for the year up to September 1. This is 47 per cent. less than the average mortality for the last five years.

Faculty Changes.—The following changes have been made in the faculty of the Medico-Chirurgical College: Dr. Edward B. Gleason, professor of otology; Dr. Philip Fischelis, associate professor of histology; Dr. Herbert J. Smith, assistant professor of materia medica and therapeutics, and Dr. J. Hamilton Small, assistant professor of bacteriology. Biology is to be made a part of the medical course the first year instead of being required preliminary to the course. This branch will be conducted by Charles H. Shaw, Ph.D., with special reference to the science of medicine.

Course in Public Health.—Courses in public health are being given at the University of Pennsylvania for the first time as a separate series leading to a diploma in "Public Health." The authorities of the university, recognizing the increasing demand for the services of trained men as public health officers, offer these new courses of instruction, especially designed for practical sanitation and include courses on sanitary engineering, public water supplies, theory of hydraulics, sanitary engineering of buildings, inspection of meat, milk and other animal products, practical methods used in sanitary work, personal hygiene, general hygiene, sanitary legislation, and the examination of social and vital statistics in the United States. The course of instruction covers a period of one academic year and twenty hours a week during the second term. At the close of the term all those who qualify in the final examinations will receive a diploma and will be designated as "Certified Sanitarians." Only persons holding the degree of doctor of medicine are eligible to the full course and entitled to the diploma.

TEXAS

Doctors' Building.—The Dallas Chamber of Commerce announces that a twelve-story business and office building is to be erected at Main and Poydras streets, to cost $500,000, and to be utilized for offices for medical practitioners and dentists.

Personal.—Dr. John H. Florence, state quarantine officer at Galveston, has resigned to become chief medical officer of the Great Southern Life Insurance Company, Houston.——Dr. Edward B. Parsons, Palestine, formerly physician of Anderson county, has been made county health officer.

New Laboratories.—Under the provisions of the thirty-fourth legislature, creating a state board of health, Dr. E. H. Lancaster, state bacteriologist, has fitted up in the state health department, Austin, a chemical and bacteriologic laboratory.——Dr. George W. Larendon, health officer of Houston, announces that the equipment for the new city laboratory is ready and that the laboratory will soon be opened. The bacteriologic department is to be under the direction of Dr. Felician J. S. Lataper.

College Matters.—The opening exercises of the Fort Worth Medical College were held September 27.——The work of the State University of Texas Medical Department, Galveston, began October 1. Under the new requirements, the applicant for matriculation must be a graduate of a high school, and next year a more severe requirement is to be exacted, that the student must have been engaged in one year's work at some recognized college or academic school. Dr. Harry O. Knight has succeeded Dr. Henry Hartman as demonstrator of pathology, and Dr. E. E. Calloway has succeeded Dr. H. T. Aynesworth as demonstrator of anatomy.

UTAH

Hospital Notes.—The Dee Memorial Hospital, in memory of the late Thomas Dee, is to be four stories in height, and will accommodate 85 patients.——Dr. Andy J. Stewart, Mount Pleasant, is preparing to build and equip a modern hospital at that place to fill a need long experienced for such an institution in southern Utah.

Personal.—Dr. Ross Anderson has resigned as professor of bacteriology and pathology in the University of Utah, and has been succeeded by Dr. Frank A. McC. Jenkin, Ann Arbor, Mich.——Dr. E. G. Hughes has succeeded Dr. James E. Hosmer, resigned, as city physician of Provo.——Drs. Julius L. Arntzen, Elsinore, and Thomas Ray Gledhill, Ruthfield, have been appointed quarantine physicians of Sevier county.

Declares Against Publicity.—The Utah County Medical Society, at a meeting held in Provo, September 9, adopted resolutions protesting against the publication of medical cases and naming the physicians connected therewith, and instructed the secretary to notify newspapers to this effect, and request reporters and papers to refrain from publishing names of physicians, places of operation, etc., without express permission from the attending physician.

GENERAL NEWS AND COMMENT

A Correction.—In The Journal, September 18, page 842, in the discussion on the Serodiagnosis of Syphilis, the remarks ascribed to Dr. Frank E. Fox, Fulton, N. Y., should have been accredited to Dr. Howard Fox, New York City.

Obstetricians and Gynecologists Elect Officers.—At the annual meeting of the American Association of Obstetricians and Gynecologists, held in Fort Wayne, Ind., September 21-23, the following officers were elected: President, Dr. Aaron B. Miller, Syracuse, N. Y.; first vice-president, Dr. Charles N. Smith, Toledo, O.; second vice-president, Dr. Raleigh R. Huggins, Pittsburg, Pa.; secretary, Dr. William Warren Potter, Buffalo (re-elected); and treasurer, Dr. Xavier O. Werder, Pittsburg, Pa. Syracuse was selected as the place and September 20, 21 and 22, 1910, as the time for holding the next annual meeting.

Public Health Association Meeting.—The preliminary announcement of the thirty-seventh annual meeting of the American Public Health Association to be held in Richmond, Va., October 19-22, under the presidency of Dr. Gardner T. Swarts, Providence, R. I., states that the Jefferson Hotel is to be the headquarters for all meetings; that a joint session of the Laboratory Section and Section of Municipal Health Officers is proposed, at which Drs. William H. Welch, Harvey W. Wiley and John S. Fulton have promised to read papers on the relation of laboratory work to executive work, and the problems which concern both executive and laboratory men, and their relations to each other. The Section of Municipal Health Officers proposes to take up the following subjects: Appointment and supervision of employees in the municipal sanitary service; the relation of the municipal health department to the city government generally, and to other branches of the city government; the control of the food supply; the prevention and abatement of nuisances; the prevention of the spread of communicable diseases of man; the prevention of the spread of communicable diseases of animals; the medical inspection of schools; the improvement of the physical condition of city dwellers; municipal vital statistics and municipal health laws.

LONDON LETTER

(From Our Regular Correspondent)

London, Sept. 18, 1909.

The Hospital Question

With the progress of medical science and the greater development of specialism there is an increasing tendency on the part of the public to seek hospital treatment. This is no doubt partly due to the fact that while competition has lowered the fees of general practitioners sometimes to such a low figure as to render proper treatment impossible or at any rate improbable, only the hastily prescribed stock mixture without proper examination being remunerative, on the other hand the fees of specialists have not only shown no tendency to fall but have actually risen. Some statistics which have recently been compiled show that there are 796 hospitals in the United Kingdom with a total income of $18,000,000. In addition there are 206 dispensaries with an income of $1,160,000, of institutions for the chronic and incurable there are 43, with an income of $1,190,000, and 242 institutions for the convalescent with an income of $1,750,000. Thus $22,000,000 is spent in the relief of the sick by institutions supported by the charitable, to say nothing of the poor-law infirmaries and fever hospitals which are supported by the state. The services of the physicians, which are given without payment (excepting some small salaries for house physicians and surgeons), do not enter into this total of expenditure. The profession is always bewailing the fact that it gives so much away, but there is always the keenest competition for these unpaid posts, because they are the only portal to the select class of consultants and specialists, who receive fees about twenty times as great as the average physician. It might fairly be argued that their services to the hospitals are not unremunerated but are paid by the enhanced fees of their rich patients; their interests are, therefore, in one sense diametrically opposed to those of the general practitioner. Their object is to get sufficient material experience to make a reputation in whatever line of work they take up and the question whether the patients could pay the small fees of the general practitioner does not concern them. However, there are many cases in which the patients could pay those fees but their case is a special and difficult one, requiring the skill of the specialist, whose much larger fees they could not pay. They are then legitimate cases for hospital treatment and indeed are often sent there by the general practitioner under these circumstances. From time to time the question of hospital abuse by those able to pay for medical advice is discussed by the British Medical Association and various other medical societies and resolutions are passed and recommendations made to hospital committees. But these committees consist of laymen, sometimes with a small sprinkling of the consultants on the hospital staff who are in little sympathy with the general practitioner. In some hospitals, however, a method has been adopted of stemming the torrent of abuse by appointing inquiry officers to investigate the financial position of those applying for relief by visits to their homes, etc.

Thief Discovered by a Thermometer Reading

The death of Dr. Whitelaw of Kirkintilloch, Scotland, has revived the following interesting story of his early career. Being called up one night many years ago he was walking with the messenger, when he was attacked and knocked down in a lonely road in the outskirts of Glasgow. His pockets were rifled and he was left lying in the road with a fracture of the fibula. One of the articles stolen was a clinical thermometer with which he had that evening taken the temperature of a patient suffering from typhoid fever. He remembered what the temperature registered and also that he had not shaken down the mercury before putting the thermometer back in his pocket and communicated these facts to the police. Some time afterward a thermometer registering the identical temperature was discovered in a pawn shop in Glasgow. By this means the police were enabled to track the doctor's assailants and to arrest them.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Sept. 10, 1909.

The Medical Record Book in the Marine Service

M. Henri Chéron, assistant secretary of the navy, has just decided on the issue of a medical record book for each man in the marine service, similar to one used in the army on land, in which will be entered the marine's height, weight, chest measurements and acuteness of visual and auditory perception. This book will follow the man wherever he goes. The military medical officers will set down there the results of their examinations, the names of the diseases treated, admissions to hospital, convalescence, etc. This book will permit the medical officers, whose task is particularly difficult because of the incessant changes to which the marine service is subject, to watch over and to treat their patients more easily. Moreover, the examination of this record book will be particularly useful at the time of reenlistment or reengagement, in order to avoid taking on men who are unfit for service. The medical record book will be passed from physician to physician, under sealed cover, and the disease treated, when of a confidential nature, will be indicated only by number. The injuries or accidents which might entitle the man to a pension will be very exactly described in this record.

Measures Against Cholera

About a year ago, in view of the epidemic of cholera which was raging in Russia, the French government put in force a series of preventive measures (THE JOURNAL, Oct. 10, 1908, lii, 1245). The terrible scourge has now entered Holland, where twenty-four cases were recorded during the first week of September. Therefore, a decree is about to be issued according to which a watch will be kept over all persons entering France by river or canal.

Fraudulent Assumption of the Doctor's Degree

All our political journals are filled with pseudoscientific articles which really are only advertisements of pharmaceutical products, signed by self-styled physicians.

The law of 1892 in regard to the practise of medicine took cognizance, indeed, of the fraudulent assumption of the doctor's degree, but it provided no punishment except in connection with the illegal practise of medicine, in which case the offense was aggravated and the penalty was greater. Illegal practise is punished by a fine of $20 to $100 (100 to 500 francs), and for a second offense, $100 to $200 (500 to 1,000 francs). Illegal practise with fraudulent assumption of the doctor's degree is punished by a fine of $200 to $400 (1,000 to 2,000 francs), and for the second offense, $400 to $600 (2,000 to 3,000 francs); moreover, the delinquent is subject to imprisonment of six months to a year. As proof of the practise of treating patients is necessary, according to our law, in order to constitute the offense of the illegal practise of medicine, the mere fact of assuming the doctor's degree in the daily papers or in pamphlets does not constitute a legally punishable offense. The Association of Medical Journalists (*Association des journalistes médicaux*) has repeatedly discussed the question of pretended doctors, and decided to recommend to the various scientific and journalistic associations action against the false assumption of degrees.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Sept. 15, 1909.

Campaign Against Proprietaries

The ever-increasing abuse of proprietary medicines has at last called forth protests from both physicians and the official apothecaries. Naturally, the government—the panacea in this country—has been expected to protect the interests of the public as well as those of the profession, but the expectation has not been fulfilled because of the powerful mercantile influences that are behind the proprietary medicine business. A resolution was recently passed at the regular meeting of the Silesian Medical Council (*Aerztekammer*) and forwarded to all "sister" councils in Austria for consideration, so that uniform action might be taken. The resolution aims to formulate some method by which the sale of proprietary medicines may be controlled. Two methods have been suggested. One is the proposal that a tax of 50 per cent. of the sale price of proprietaries shall be imposed on such medicines. The tax thus levied is to be devoted to public health purposes, etc. The chief objection to this plan is that practically the sale of such medicines would hardly be restricted, but the public would have to pay 50 per cent. more for its credulity. The second plan suggested and the one which has more probability of being carried, recommends that all proprietary medicines shall be sold only under the following conditions: They must not be advertised in any but medical periodicals. The labels and containers must have only the names of the articles and the names of their manufacturers or proprietors, and must not contain the names of any of the diseases for which the remedy is recommended. [This requirement is practically identical with Rule 4 of the Council on Pharmacy and Chemistry, which debars from admission to New and Nonofficial Remedies any article "whose label, package or circular accompanying the package, contains the names of diseases in the treatment of which the article is said to be indicated."—ED.] The manufacturers of proprietary medicines which contain potent drugs, may have to submit evidence regarding the composition and the claims made for these articles. The advantages of this second plan are so numerous that it is expected that it will be adopted.

The Winter Semester

The winter semester of the Vienna University begins officially with the first Monday in October, but some classes begin earlier, while the regular semestral classes do not start before the eighteenth. Amongst the new professors, whose lectures are looked forward to with eager interest, are those of the eye and the gynecologic clinics; they are not yet appointed, but the decision of the ministry of education is expected in October. A number of classes by serologists and pathologists dealing with the latest additions to modern serology are announced, otherwise the number of regular lectures is the same as usual. Including the classes by privat-docents and assistants, no less than 460 courses and classes will be held by the medical faculty of the Vienna University from October till March. The fee is generally from $10 to $25; the duration is from sixteen to twenty-four hours, except in regular semestral classes, lasting six months.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Sept. 8, 1909.

The Etiologic Significance of Spirochæta Pallida

After the significance of *Spirochæta pallida* as a cause of syphilis has been established apparently without dissent, there suddenly appears an article in the *Deutsche medizinische Wochenschrift* from the well-known bacteriologist, Schereschewsky, that is calculated to reopen the question. In his article, which is a reproduction of an address at the International Congress at Budapest, Schereschewsky communicates the results of further investigations which he has made on the culture of the *Spirochæta pallida* at Neisser's clinic at Breslau in pursuance of the work which he published a few months ago. He has succeeded in cultivating the spirochete, but he has not been able to infect animals with these cultures. In spite of an observation period of from one to four and a half months, none of his inoculations gave rise to an affection which could be regarded as syphilis. He meets the question of the significance to be attached to the unsuccessful animal inoculations by himself and others, by asserting a doubt whether the *Spirochæta pallida* is really the exciting cause of syphilis. We must not hesitate, he remarks, to subject to renewed criticism the relation of Schaudinn's spirochete to syphilis which was so readily accepted. It may be possible, indeed, that the spirochetes have lost their virulence by cultivation; such behavior, however, has never been observed in cultivated microorganisms. It might also be possible that the spirochetes cultivated by Schereschewsky in spite of their microscopic resemblance were not the genuine *Spirochæta pallida* which causes syphilis. It would be a severe criticism of the author to accept this explanation; he has hitherto believed that he was able to recognize the *Spirochætæ* in spite of their morphologic variability. If his skill in this respect is to be doubted it would be necessary to doubt the diagnostic significance of the finding of the *Spirochætæ* in general. There is no question that this article, which has been prepared by an experienced author under the supervision of Neisser, will attract the greatest attention.

Advent of Cholera

Cholera has now been introduced into Holland by sea, and 15 cases with 10 deaths have occurred at Rotterdam. There are 74 suspected persons under medical supervision. Undoubtedly, the cholera was introduced from Russia. In St. Petersburg, since the beginning of the present cholera epidemic, about 14,000 persons have been attacked, and 5,500 have died of the disease.

Pharmacology

[Contribution from the Chemical Laboratory of the American Medical Association]

ANUSOL HEMORRHOIDAL SUPPOSITORIES

W. A. Puckner and L. E. Warren

An abstract of an article concerning "anusol suppositories" was published in The Journal, Jan. 23, 1909. This gave the results of an analysis by a foreign chemist, J. F. Suyver, which were to the effect that "anusol suppositories" contained no "anusol." Schering & Glatz, the American agents for "anusol" suppositories, took exceptions to the abstract, asked that The Journal retract, and submitted the findings of a chemist in support of their claim that the suppositories do contain "anusol." To determine the composition of "anusol hemorrhoidal suppositories" as they are found on the American market, trade packages were purchased (April 6, 1909) and submitted to examination in the Association's laboratory.

According to the claims of the manufacturers, 12 suppositories contain:

"Anusoli	7.5 grams
"Zinc oxid	6.0 grams
"Balsam Peruv	1.5 grams
"Ol. theobrom	19.0 grams
"Ungt. cerat	2.5 grams"

Calculated to percentages the formula reads:

Anusoli	20.54 per cent.
Zinc oxid	16.44 per cent.
Balsam Peruv	4.11 per cent.
Ol. theobrom	52.06 per cent.
Ungt. cerat	6.85 per cent.

When this product was submitted to the Council some time ago, Schering & Glatz stated that, according to the manufacturer, "anusol" is the "iodo resorcin sulphonate of bismuth, having the following rational formula: $[C_6H_2ISO_2.O(OH)_2]_3Bi$. In the meta-dioxybenzol $C_6H_4(OH)_2$, the resorcin, one H has been replaced by one I, and for another H the sulfonic-acid group So_2-OH has been substituted, so that meta-dioxybenzol is transformed into $C_6H_2ISO_2\text{-}OH(OH)_2$. In the sulfonic acid the H of OH is replaced by Bi and, as Bi is trivalent the above rational formula results."

According to this formula "anusol" should contain:

Iodin	32.99 per cent.
Sulphur	8.34 per cent.
Bismuth	18.07 per cent.

And the "anusol" suppositories should contain:

Iodin	6.77 per cent.
Sulphur	1.71 per cent.
Bismuth	3.71 per cent.

Examination[1] showed that the suppositories contain about 0.08 per cent. iodin, or 1.2 per cent. of the amount claimed; 0.28 per cent. sulphur, or 16.3 per cent. of what is claimed; 0.71 per cent. bismuth, or 19 per cent of what is claimed; and zinc equivalent to 16.5 per cent. zinc oxid, or about 100 per cent. of claim.

From the standpoint of the iodin content alone, assuming that all of the iodin found is present in the form of "anusol," the results of the examination of the product (as found on the American market) verifies, for all practical purposes, Suyver's statement that "anusol suppositories contain no anusol," for the quantity of iodin present is so minute (about 1/82 of that required by the formula) as to be unworthy of serious consideration. The presence of sulphid in appreciable amounts was demonstrated showing that the sulphur is present, at least in part, in the form of sulphid and not as sulphonate as is claimed. In a measure, too, this is in accord with the findings of Suyver, who concluded that, in the product which he examined, the bismuth was present in the form of sulphid. The proportions of sulphur and of bismuth (respectively about 1/6 and 1/5 of the required amounts) indicate still further that the product is not all that it is claimed to be.

A specimen submitted by Schering & Glatz to the Council two years ago contained 0.09 per cent. iodin, or 1.3 per cent. of the amount claimed; 0.23 per cent. sulphur, or 13.4 per cent. of the claimed amount; and 0.52 per cent. bismuth, or 14 per cent. of what is claimed by the formula. Since the above determinations were made another specimen of Anusol Hemorrhoidal Suppositories was received from Schering & Glatz, July 16, 1909. This sample was found to contain about: 0.075 per cent. iodin, or 1.1 per cent. of the amount required by the formula; 0.265 per cent. of sulphur, or 15.5 per cent. of the requirement and 0.88 per cent. bismuth, or 23.7 per cent. of the required amount. It will thus be seen that the composition of the oldest specimen and also that of the specimen recently sent, corresponds in a general way with that of the one first examined.

Whether judgment be based on the determination of the bismuth, the sulphur or the iodin, the results just given clearly show that the claims made concerning the composition of "Anusol Hemorrhoidal Suppositories" are not substantiated by the facts.

Hayes Asthma Cure

To the Editor:—Kindly give me information concerning "The Hayes Method for Asthma and Hay Fever," concerning which I enclose a circular. E. Parrish, Brooklyn.

Answer.—The Hayes asthma remedies were analyzed in the pharmaceutical institute of the University of Berlin by J. Kochs, and, according to the *Arbeiten aus dem Pharmazeu-*

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[1] Details of the quantitative analysis of "Anusol Hemorrhoidal Suppositories" will appear in the annual report of the Chemical Laboratory of the American Medical Association, or they may be had on request.

tischen Institut der Universität, Berlin, vol. iv, p. 122, with the following results. Six of the seven remedies were examined:

1 (Labeled No. 781).—A cough medicine for use in colds, catarrhs, bronchitis and for the relief of asthma. Dose 20 to 30 drops. This is said by the analyst to contain about 6.5 per cent. of oils, consisting chiefly of oils of turpentine and peppermint, emulsified and sweetened with syrup.

2 (Labeled T. I. Q.).—A remedy that is to be taken in doses of 15 minims three times a day before meals. According to the report, it contained 13.7 per cent. of iodin in the form of potassium iodid, to which had been added a little wine and a small percentage (0.1) of hydrochloric acid.

3 (Labeled No. 769 A.-C.).—A remedy to be given in doses of 30 minims at bedtime, to be repeated two or three times in several hours. This, says Kochs, was a slightly reddish syrup containing 6.7 per cent. of iodin combined as potassium, sodium and ammonium iodids.

4 (Labeled T. II Q.).—A preparation to be taken in doses of 15 minims three times a day immediately after meals. The analytical report shows it to contain 1.08 per cent. of iron in the form of an iron peptonate.

5 (Labeled No. 808).—These were small capsules filled with 0.1 gm. (1.5 grs.) of a loose white powder. It is said "to strengthen the lungs and reduce the tendency to taking cold." Analysis is said to have disclosed that it consisted of quinin sulphate.

6 (Labeled No. 763).—Small white sugar-coated pills. These are said to act mildly on the liver and regulate the digestion. The active principle of these pills as shown by the analysis was resin of jalap.

Correspondence

Expression of Cataract in Its Capsule

To the Editor:—The letter of Major Henry Smith, I. M. S., in The Journal, Sept. 11, 1909, needs an answer because of the bias of this "most interesting man in the world."

With all due deference to the great experience of Major Smith, which has never even been approached by any other operator, and to the details of the operation which he (Smith) claims as his own, yet I consider that a slightly larger incision than that described in the original essay of Pagenstecher in 1865, and small modifications claimed in the procedure should not take away the honor of priority of description and practice of the procedure from Pagenstecher and give the operation the name of Smith of Jullundur.

Indeed, as has been noted in Greene's and my papers, the same operation was done even before the time of Pagenstecher, although not generally practised. In Benjamin Bill's. "System of Surgery," reprinted in Boston in 1791, it is noted that a French oculist regularly operated in suitable cases by removing the lens in its capsule.

The expression operation is specifically described by Pagenstecher and Elschnig as follows:

> *Nach dem Drittelbogenschitt nach oben mit Bindehautlappen wird iridectomiert und hierauf die Linse, entweder durch das blosse Druckmanöver oder mit dem flachen Löffel der bloss als Gleitfläche dient, entbunden.*
>
> The lens is expelled after incision of about one-third of the circumference made with a conjunctival flap and an upward iridectomy either by means of gentle pressure or with the flat spoon acting purely as a gliding surface.

I have had occasion to look over my collection of so-called Pagenstecher spoons and among the seven which I possess find *only* one which in any way corresponds with the cup-shaped instrument depicted by Smith. The others all offer the gliding surface as described above.

Why then did I not quote Pagenstecher's writings on "Expression of Cataract in the Capsule" between 1888 and 1908? My position as editor of *Ophthalmology* and kindred publications for the past twenty years gives me rather an exceptional command of ophthalmic literature, yet I am not aware that there have been any such publications of his during this time!

The necessity for at least a 3/5 incision of the sclerocornea or a larger one when purely in the cornea has been pointed out by other writers besides Smith and myself. While I am favorable to the operation of expression of cataract in its capsule it is yet *sub judice,* and it must be proved that it is "the best operation in the world" by its ultimate results.

H. V. Würdemann, M.D., Seattle, Wash.

Tubercle Bacilli in the Blood—A Claim for Priority

To the Editor:—Referring to your editorial, "Tubercle Bacilli in the Blood," in The Journal of Sept. 18, 1909, I wish to call attention to the fact that in May, in a paper by Dr. Lyons and myself, which was read before the Louisiana State Society, in which we reported failure to confirm certain observations of Rosenberger, appears the following anent the presence of contaminating organisms in distilled water: "The danger of this occurrence is easily obviated by using water very recently distilled, or direct from the still, and by the thorough cleansing of the jars before using by means of a strong solution of mineral acid." As we were the first to report failure to confirm observations made by Rosenberger and encountering the error, corrected and reported on it, I believe that it should be credited to us and not to Brem. We went through the experiences which he reports in The Journal, in our paper directed attention to Rosenberger's faulty technic, and gave a method of overcoming the difficulty, and reported this some four months ago. I will thank you for giving this letter publication.

M. P. Burnham, M.D., Harrisonburg, Va.

Rhinology at the International Medical Congress

To the Editor:—The papers and discussions of the diseases of the accessory sinuses have been of special interest to rhinologists at the Sixteenth International Congress. Whereas, up to comparatively recent date, the pendulum had swung to ultraradicalism, at the congress it was evident that return had been made to safer measures. The authors of papers that were read and all of those who discussed the subject, with the single exception of Jansen, were strongly in favor of conservative measures except in extreme and rare cases. It was admitted that the radical operation did not usually result in quicker recovery than could be obtained from the less severe and more conservative operations. It was further admitted that these extreme operations were the cause of many deaths. About a dozen papers on these subjects were presented. Among those who read or discussed the papers were Dundas Grant (London), Uchermann (Christiania), Bourack (Charkoff), Jansen (Berlin), Killian (Freiberg), Chiari (Vienna), Massei (Naples), myself and several others whose names I do not now recall. Naturally great weight is given to the change of sentiment by the attitude of Killian, whose work along these lines is well-known. It is to be hoped that the preponderance of evidence brought out will result in placing the radical operation in its proper position, that is, an operation of the last resort.

E. Fletcher Ingals, Chicago.

Warning Against Book Agent

To the Editor:—At present there is traveling through the southern states, a man reported to us to be about 35 or 40 years of age, clean-shaven face, weighing 250 or 265 pounds, about 6 feet high.

He is calling on physicians and others offering to sell them forty books for $20, and to make them local agents for the Lippincott Publishing Co. So far as we know, there is no concern in this country of that name. After securing the $20 or $25, nothing more is heard of this agent, and as the complaints come to us we have reason to believe that he is working on our reputation. He has been working through Louisiana, Mississippi and Arkansas, and has used the names of Bradford, Howard and Hackett, with various initials.

Judging from the numerous complaints received, his operations are extensive and successful from his standpoint.

We are doing all we can to have the police notified, and the man apprehended, though, of course, we cannot *prosecute,* as we have not been injured or victimized.

J. B. Lippincott Co., Philadelphia.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CHRONIC CEREBRAL HYPEREMIA

To the Editor:—Please outline the treatment (dietetic, hygienic and medicinal) which has been found the most satisfactory for chronic cerebral hyperemia. The patient is a woman, aged 30, unmarried, and has been a sufferer for about seven years. Acute exacerbations have been noted during that period, varying from twice a week to once a month. They are usually preceded by nausea or vomiting, but not in every instance. Dietetic indiscretions have been interdicted and corrected. Refractive errors have been corrected. There is no malformation, lack of function or pathologic disturbance of the uterus or appendages. The patient is a worker on fine oriental rugs. While this may be to some extent a factor, it seems more probable that the disease was induced by extreme mental anxiety due to her father's financial misfortunes and subsequent death. The family history is good.

J. C. C., Philadelphia.

Answer.—Modern neurology does not recognize "chronic cerebral hyperemia" as a unique and separate disease. In the "chronic" form, congestion of the brain is always secondary to some other pathologic condition. The congestion may be active (arterial), or passive (venous); but in either case, physical obstruction to the circulation as from tumor, or disease of some sort of the vascular apparatus, is the real malady to be diagnosed and treated. There is no treatment for "chronic cerebral hyperemia" apart from the treatment of the underlying condition of which it is a secondary result. The symptoms that used to be attributed to cerebral hyperemia are now known to be due, when dependent on the intracranial circulation at all, to the quality of the blood and the speed of the current, rather than to the quantity. The anastomoses of the intracranial circulation are so abundant that cerebral hyperemia, except when it is secondary to, and a part of, some other pathologic state, is always a temporary affair. The treatment for temporary congestion of the brain is so well known as to need no special outline here.

The case noted above is not reported in sufficient detail to permit of a diagnosis. If further data can not be obtained from a thorough physical examination of the patient, "the extreme mental anxiety due to the father's financial misfortunes and his subsequent death," coupled with the fact that she "is a worker on fine oriental rugs" may legitimately awaken the suspicion of a psychoneurosis of the hystero-neurasthenic form. A further examination along this line, however, would be needed to establish the diagnosis. The hygienic, dietetic and medicinal treatment of a psychoneurotic patient, in whom there are hysterical and neurasthenic manifestations, is too large a subject for full consideration here; and its details depend on too many contingencies to permit of the formulation of a single scheme.

If the case is one of hysteria, the treatment should be preeminently along psychotherapeutic lines. Psychasthenia, unlike hysteria, is somewhat of a mental inefficiency. The treatment of hysteria, however, is more or less applicable to psychasthenia, with perhaps somewhat greater stress laid on rest, nutrition and a general tonic regimen. Neurasthenia, unlike hysteria and psychasthenia, calls most loudly for prolonged rest and increased nutrition. The entire course of the treatment of neurasthenia should occupy not less than six weeks. The hygiene of the patient, of course, should be of the best. Proper clothing, cleanliness, and regular habits are the requirements here. The dietetics involve no particular line of food; nutrition being the great desideratum, all foods that the patient can digest and assimilate should be tried and pushed to the limit of the physiologic powers of the alimentary organs. Water should be abundantly taken. A few simple tonics, such as iron, arsenic, strychnin, quinin, continued for a long period of time in very moderate dosage, conclude practically the medicinal treatment of nervous exhaustion.

In general practise most of the cases seen are hystero-neurasthenic. A hysterical woman exhausts her nervous mechanism; and a neurasthenic individual sooner or later develops a hysteroid state of mind. The treatment of these patients, therefore, calls for a combination of the methods briefly outlined above.

SOLUBILITY OF PHENOL (CARBOLIC ACID)

To the Editor:—In an editorial in The Journal (September 18, p. 954) in the discussion of tetanus appeared the statement to cauterize the wound with a "25 per cent. phenol solution." Evidently a 25 per cent. aqueous solution was to be understood. Statements are so frequently made by physicians about 25 per cent. and 50 per cent. solutions of phenol in water at ordinary room temperature that one is forced to think that some of them are not familiar with the solubility relations of water and phenol. The ease with which possibly serious burns might be produced makes a knowledge of these relations important. At ordinary room temperature (25 degrees C), if an attempt is made to obtain a 25 per cent. solution of phenol in water, two immiscible solutions will separate in two layers, the lower layer containing 75 per cent. phenol and the upper layer containing 7.5 per cent. phenol. A fairly thorough exposition of these solubility relations may be found in "The Phase Rule and Its Applications," by Alexander Findlay, on pages 95-8.

C. R., Kansas City, Mo.

Answer.—While the failure to state that the 25 per cent. solution of phenol should be "in glycerin or alcohol" was open to criticism, nevertheless, the facts regarding the solubility of this agent have been so often reiterated and its use is so common that details would seem to be scarcely necessary.

TECHNIC OF THE WASSERMANN TEST

To the Editor:—Please give reference to the best description of the technic of the Wassermann test in the medical literature of this country.

N. Evans, Nashville, Tenn.

Answer.—Good descriptions of the technic of the Wassermann test are given in the following:

Fleischmann, P. and Butler, W. J.: Serum Diagnosis of Syphilis, The Journal A. M. A., Sept. 14, 1907, xlix, 934.

Fox, H.: The Principles and Technic of the Wassermann Reaction and Its Modifications, *Med. Rec.*, March 13, 1909, lxxv, 421.

Reference may also be made to the following:

Castelli, E.: The Technic of the Wassermann Reaction, *New York Med. Jour.*, April 17, 1909, lxxxix, 777.

Butler, W. J.: Serodiagnosis of Syphilis, *New York Med. Jour.*, Jan. 30, 1909.

HEADACHE FOLLOWING ADMINISTRATION OF POTASSIUM IODID AND FOWLER'S SOLUTION

To the Editor:—All of our authorities teach that small doses of Fowler's solution will prevent the eruption so common in the administration of potassium iodid. In the past few years I have given it in small doses, but invariably my patients would suffer with an unbearable headache.

I have never seen this mentioned in any medical literature, and I would like some explanation. I am certain that the headache is not a mere coincidence.

J. J. Hardy, Poteau, Okla.

The Public Service

Medical Department of the Army

Changes for the week ended Sept. 25, 1909:

Kean, J. R., lieut. col., detailed to attend meeting of American Public Health Association at Richmond, Va., Oct. 19 to 22.

Murtagh, J. A., Van Poole, G. M., Reno, W. W., Gosman, G. H. R., Koerper, C. E., Allen, J. H., Patterson, R. U., Noble, R. E., Van Dusen, J. W., Grubbs, R. B., Sweazy, V. E., capts., ordered to report at Washington, D. C., for examination for promotion.

Truby, A. E., major, granted leave of absence for 1 month.

Brooks, W. H., Barney, C. N., McAndrew, P. H., De Witt, Wallace, [illegible] capts., ordered to report at San Francisco, for promotion.

[illegible] or, relieved from duty at the Presidio of San Francisco, Cal., and ordered to Fort D. A. Russel, Wyo., for duty.

Davis, A. D., 1st lieut., relieved from duty at Fort Lawton, Wash., and ordered to Vancouver Barracks, Wash., for duty.

Little, W. L., capt., ordered from Fort Adams, R. I., to Fort Ontario, N. Y., for temporary duty.

Dutcher, B. H., major, granted leave of absence for 15 days.

Wadhams, S. H., major, granted leave of absence for 4 months, when relieved at Fort Shafter, H. T.

Fuller, L. A., major, granted an extension of 1 month to his leave of absence.

Harris, H. S. T., lieut. col., ordered to assume temporary charge of medical supply depot, at San Francisco, Cal.

Craig, C. F., capt., relieved from duty as attending surgeon at New York City, and ordered to Washington, D. C., for duty as assistant curator, Army Medical Museum.

Artaud, F. E., Dougherty, J. C., Hughes, M. E., M. R. C., relieved from duty in the Philippines Division, and will sail December 15, for San Francisco, Cal.

Lemmon, Robt., Conzelmann, F. J., Watkins, V. E., M. R. C., relieved from duty at their present stations and will proceed to San Francisco to sail November 5, for Manila, P. I.

Kershner, W. E., M. R. C., ordered to active duty, and to proceed from Waterville, Me., to Fort Hancock, N. J., for duty.

Maloney, J. E., M. R. C., relieved from duty at Fort Hancock, N. J., and ordered to duty at Seattle, Wash., on the transport *Burnside*.

Lowe, T. S., M. R. C., relieved from duty on the transport *Burnside*, and ordered to duty at the Presidio of Monterey, Cal.

Wiggin, D. C., M. R. C., granted leave of absence for 1 month.

Heterick, R. H., M. R. C., ordered to active duty, and to proceed to Fort Oglethorpe, Ga., for duty.

Cohen, H. M., M. R. C., ordered to active duty, and to proceed to Fort Rodman, Mass., for duty.

Lyon, W. C., M. R. C., ordered to active duty, and to proceed to Fort Du Pont, Del., for duty.

Lavanture, L. A., M. R. C., ordered to active duty, and to proceed to Fort D. A. Russell, Wyo., for duty.

Hallett, H. J., M. R. C., ordered to active duty, and to proceed to Fort Totten, N. Y., for duty.

Sharpe, H. H., M. R. C., ordered to active duty, and to proceed to Fort Jay, N. Y., for duty.

Sherwood, J. W., M. R. C., ordered to active duty, and to proceed to Fort Williams, Me., for duty.

Dawe, C. W., M. R. C., ordered to active duty, and to proceed to Fort Thomas, Ky., for duty.

Miltenberger, V. E., M. R. C., ordered to active duty, and to proceed to Fort Riley, Kans., for duty.

Browne, R. W., M. R. C., ordered to active duty, and to proceed to Fort Monroe, Va., for duty.

Griffin, J. C., M. R. C., ordered to active duty, and to proceed to Fort Howard, Md., for duty.

Borden, W. R., M. R. C., ordered to active duty, and to proceed to Fort Bayard, N. M., for duty at the Army General Hospital.

Northington, E. G., M. R. C., ordered to active duty, and to proceed to Fort McPherson, Ga., for duty.

Hart, J. W., M. R. C., granted leave of absence for 2 months, at the expiration of which he will stand releved from active duty in the M. R. C.

Watkins, V. E., M. R. C., granted leave of absence for 15 days.

Jones, G. B., M. R. C., granted leave of absence for 1 month.

Medical Corps of the Navy

Changes for the week ended Sept. 25, 1909:

[illegible] surgeon, ordered to the Naval Recruiting [illegible] Tenn.

[illegible] argeon, commissioned surgeon from Oct. 11, 1909.

Fauntleroy, A. M., P. A. surgeon, ordered to the *Indiana*, and additional duty in connection with the *Lancaster*.

Reed, E. U., P. A. surgeon, detached from the Naval Recruiting Station, Nashville, Tenn., and ordered to Naval Hospital, Norfolk, Va., for duty.

Sutton, D. G., asst.-surgeon, detached from the *Vestal*, and ordered to the *Des Moines*.

Donelson, M., asst.-surgeon, detached from the Naval Recruiting Station, Chattanooga, Tenn., and ordered to the Naval Recruiting Station, Nashville, Tenn.

Flint, J., asst.-surgeon, detached from the Naval Hospital, Philadelphia, Pa., and ordered to the Naval Hospital, Navy Yard, Boston, Mass.

Crandall, R. P., surgeon, ordered to the *Hancock*.

Seaman, W., P. A. surgeon, ordered to the Naval Hospital, Navy Yard, New York.

The following Acting Assistant Surgeons have been detached from the places opposite their names and ordered to Instruction at the Naval Medical School, [illegible] 1909:

G. E. Robertson, detache [illegible] ass.
J. J. A. McMullin, detach [illegible] R. I.
J. T. Johnson, detached [illegible] Pa.
W. L. Irvine, detached [illegible]
H. E. Jenkins, detached Naval Hospital, Norfolk, Va.
D. C. [illegible] Norfolk, Va.
A. B. [illegible] York City.
W. H. [illegible] Norfolk, Va.
E. W. [illegible] New York City.
S. D. [illegible] v York City.
G. R. [illegible] Newport, R. I.
W. A. [illegible] School Hospital.
W. J. [illegible] arleston, S. C.
G. E. [illegible]
J. A. [illegible] Medical School, Washington, D. C.

Public Health and Marine-Hospital Service

List of changes for the seven days ended Sept. 22, 1909:

White, J. H., surgeon, granted 7 days, leave of absence from Sept. 18, 1909, under paragraph 189, Service Regulations.

Lavinder, C. H., P. A. surgeon, granted 3 days' leave of absence en route to station.

Goldberger, Joseph, P. A. surgeon, reassigned to duty in the Hygienic Laboratory, to date from Oct. 31, 1908.

Frost, W. H., P. A. surgeon, granted 1 day's leave of absence, Sept. 13, 1909, under paragraph 191, Service Regulations.

Warner, H. J., asst.-surgeon, granted 5 days' leave of absence from Sept. 25, 1909.

Browne, R. W., acting asst.-surgeon, granted 16 days' leave of absence from Sept. 16, 1909.

Burland, B. W., acting asst.-surgeon, granted 14 days' leave of absence from Sept. 13, 1909.

Curley, C. P., acting asst.-surgeon, granted 21 days' leave of absence from Sept. 25, 1909.

Duffy, Francis, acting asst.-surgeon, granted 3 days' leave of absence from Sept. 21, 1909.

Dynan, N. J., acting asst.-surgeon, granted 16 days' leave of absence from Sept. 13, 1909.

Light, S. D. W., acting asst.-surgeon, granted 30 days' leave of absence from Oct. 5, 1909.

Marsh, W. H., acting asst.-surgeon, granted 13 days' leave of absence from Oct. 2, 1909.

Mason, Wm. C., acting asst.-surgeon, granted 5 days' leave of absence from Oct. 4, 1909.

Robertson, Herman, acting asst.-surgeon, granted 14 days' leave of absence from Sept. 17, 1909.

Seavey, L. T., acting asst.-surgeon, granted 3 days' leave of absence from Sept. 15, 1909, under paragraph 210, Service Regulations.

Small, E. M., acting asst.-surgeon, granted 14 days' extension of annual leave on account of sickness from Aug. 30, 1909.

Thornton, M. J., acting asst.-surgeon, granted 13 days' leave of absence from Oct. 1, 1909.

Wetmore, W. O., acting asst.-surgeon, granted 1 day's extension of annual leave on account of sickness, Sept. 4, 1909.

Health Reports

The following have been reported to the Public Health and Marine-Hospital Service, during the week ended Sept. 24, 1909:

SMALLPOX—UNITED STATES

Illinois: Peoria, Aug. 1-31, 9 cases.
Indiana: Fort Wayne, Sept. 4-11, 3 cases.
Louisiana: New Orleans, Aug. 28-Sept. 4, 1 case.
Missouri: St. Louis, Sept. 4-11, 1 case.
Ohio: Dayton, Sept. 4-11, 5 cases.

SMALLPOX—INSULAR

Philippine Islands: Manila, July 24-31, 1 case.

SMALLPOX—FOREIGN

Brazil: Pernambuco, July 1-31, 27 deaths.
Chile: Valparaiso, Aug. 4-21, present.
China: Amoy, July 1-31, 9 cases, vicinity; Newchwang, July 31-Aug. 14, 2 cases, 1 death; Shanghai, July 31-Aug. 7, 1 death.
Ecuador: Ensenada, Aug. 10, epidemic; Guayaquil, July 1-31, 4 cases, 1 death, in vicinity.
France: Paris, Aug. 14-21, 1 death.
India: Calcutta, July 31-Aug. 7, 2 deaths; Rangoon, 2 deaths.
Italy: Naples, Aug. 22-29, 17 cases, 3 deaths.
Java: Batavia, July 31-Aug. 7, 1 case.
Mexico: Monterey, Aug. 29-Sept. 5, 1 death; Veracruz, 2 cases, 1 death.
Peru: Mollendo, Aug. 30, present.
Portugal: Lisbon, Aug. 21-28, 14 cases.
Russia: Moscow, Aug. 14-21, 3 cases, 2 deaths; Odessa, Aug. 7-21, 14 cases, 5 deaths; Riga, Aug. 21-28, 9 cases; St. Petersburg, Aug. 7-21, 40 cases, 11 deaths; Warsaw, July 10-17, 1 death.
Spain: Barcelona, Aug. 21-28, 6 deaths; Vigo, Aug. 14-28, present.
Turkey: Bagdad, July 17-Aug. 4, present.

YELLOW FEVER

Brazil: Manaos, July 7-14, 2 deaths; Para, Aug. 14-28, 9 cases, 9 deaths; Pernambuco, July 1-31, 2 deaths.
Ecuador: Guayaquil, Aug. 14-21, 3 deaths.
Mexico: Merida, Sept. 3-10, 2 deaths, in vicinity.
Venezuela: Maiquetia, Aug. 25, 1 case, vicinity of La Guaira.

CHOLERA—INSULAR

Philippine Islands: Manila, July 24-31, 1 case, 1 death; Provinces, July 24-Aug. 7, 278 cases, 191 deaths.

CHOLERA—FOREIGN

China: Amoy, July 31-Aug. 7, 15 deaths; Hankau, Aug. 3, present; Shanghai, Aug. 3-11, present.
India: Calcutta, July 31-Aug. 7, 7 deaths; Madras, Aug. 7-13, 1 death; Rangoon, July 31-Aug. 7, 3 deaths.
Manchuria: Dalny, Aug. 7-14, 1 case, on steamship Kobe Maru.
Netherlands: Amsterdam, Sept. 10, 1 case; Dirksland, 1 case; Middelburg, Aug. 28-Sept. 4, 1 case; Rotterdam, Aug. 20-Sept. 4, 34 cases, 14 deaths; Tholen, Aug. 28-Sept. 4, 1 case; Utrecht, 1 case; Vlaardingen, 1 case.
Russia: General, Aug. 21-28, 573 cases, 243 deaths; Moscow, Aug. 14-21, 1 case, 1 death; Riga, Aug. 21-28, 17 cases, 8 deaths; St. Petersburg, Aug. 22-29, 180 cases, 64 deaths.
Sweden: Stockholm, Aug. 12, 1 case, imported.

PLAGUE

Chile: Iquique, Aug. 22, 4 cases, in lazaretto.
China: Amoy, July 31-Aug. 7, 51 deaths; in Vicinity, July 1-31, 19 cases, 7 deaths; Hongkong, July 24-31, 2 cases, 2 deaths.
Ecuador: Guayaquil, Aug. 14-21, 5 deaths.
Egypt: General, July 29-Aug. 5, 9 cases, 2 deaths; Alexandria, Aug. 5, 1 case.
India: General, July 31-Aug. 7, 1,287 cases, 938 deaths; Calcutta, 15 deaths; Rangoon, 29 deaths.
Japan: Kobe, Sept 13, present.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phœnix, October 4-5. Sec., Dr. Ancil Martin.
Colorado: Capitol, Denver, October 5. Sec., Dr. S. D. VanMeter, 1723 Tremont St.
Georgia: Regular, Capitol Bldg., Atlanta, October 12. Sec., Dr. E. R. Anthony, Griffin. Homeopathic: Atlanta, October 4. Sec., Dr. R. E. Hinman, 153 Whitehall St.
Idaho: Boise, October 5-6. Sec., Dr. W. F. Howard, Pocatello.
Illinois: Coliseum Annex, Chicago, October 20-22. Sec., Dr. J. A. Egan, Springfield.
Kansas: Topeka, October 12. Sec., Dr. F. P. Hatfield, Olathe.
Michigan: Lansing, October 12-14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.
Minnesota: State University, October 5. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.
Mississippi: Jackson, October 12. Sec., Dr. S. H. McLean.
Montana: Capitol, Helena, October 5. Sec., Dr. W. C. Riddell.
New Jersey: State House, Trenton, October 19-20. Sec., Dr. E. L. B. Godfrey, Camden.
New Mexico: Santa Fe, October 11-12. Sec., Dr. J. A. Massie.
North Dakota: Grand Forks, Oct. 5-7. Sec., Dr. H. M. Wheeler.
Oklahoma: Ione Hotel, Guthrie, October 13. Sec., Dr. Frank P. Davis, Enid.
Rhode Island: Room 313, State House, Providence, October 7-8. Sec., Dr. Gardner T. Swarts.
Utah: Room 207, City and County Bldg., Salt Lake City, October 4-5. Sec., Dr. G. F. Harding, 310 Templeton Bldg.
Wyoming: Laramie, October 20-22. Sec., Dr. S. B. Miller.

A Standard Medical Curriculum

At the Fifth Annual Conference of the Council on Medical Education, held in Chicago, April 5, 1909, a standard medical curriculum was recommended, the report of which is published in the *American Medical Association Bulletin*, September, 1909.[1] This supplies a long-felt need. Without a standard curriculum as a guide there would be danger that, instead of securing a fairly uniform curriculum, some colleges might lay too much stress on some subjects and too little on others, or might overload the curriculum with unimportant subjects and details. It was essential to arrange a medical curriculum which would not be so overcrowded as to prevent the best work but which would furnish the best training and equipment for practitioners in medicine. The domain of medical knowledge has become so extensive that it was quite necessary to point out what subjects should be required, how much emphasis should be laid on each and what subjects should be made elective.

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[1] A copy of the Bulletin will be sent on receipt of four cents *for postage*.

In order to prepare this standard curriculum, the Council on Medical Education selected a Committee of One Hundred from the leading medical educators of the United States and Canada to make an exhaustive study of the problem. The subjects of the medical curriculum were arranged in ten groups and a subcommittee of ten members was selected for each group. Before active work was begun an outline was prepared giving the main propositions on which the curriculum was to be constructed. These propositions were: 1. The entire medical course was to cover four years of *at least* thirty weeks each, exclusive of holidays, consisting of thirty hours per week of actual work. 2. A four-year high-school education and in addition at least one year of college work devoted to courses in physics, chemistry, biology and modern languages was to be required for admission. 3. The total requirement in all branches of the medical curriculum for the four years was to be *at least* 3,600 hours. (The 4,100 hours of the curriculum recommended represents, therefore, the *maximum* requirement). Each member was forwarned that the chief difficulty would be the fixing of the number of hours to be devoted to each subject since the claims of all other subjects would have to be kept in mind.

In order to secure some uniformity of procedure a suggestive outline of the points to be taken up was prepared and specific recommendations were asked regarding: (a) prerequisite courses, referring either to preliminary requirements or to medical courses which should precede the subjects under consideration; (b) the place in the curriculum, whether in first, second, third or fourth year; (c) portions of the subject to be required and portions to be optional; (d) necessary qualifications of instructors; (e) the best methods of instruction; (f) the necessary laboratory equipment (apparatus), or, if a clinical branch, the minimum number of hospital or dispensary patients which should be required; (g) auxiliary facilities (library, museum, charts, stereopticons, reflectoscopes, etc.) which should be required; (h) the proportions of didactic (lectures or recitations) and practical (laboratory or clinical) teaching; (i) the minimum total of hours of a 3,600-hour curriculum to be devoted to the subject or subjects of each section. It was made clear that the outline was not intended to limit the discussions to the items mentioned but that specific recommendations relating to any other subjects or to the curriculum as a whole would be strictly in order.

It is stated by the Council on Medical Education that this standard curriculum is advanced for its educational value and not with the idea that all colleges should be required to conform strictly to it. In fact, absolute uniformity of curricula in all colleges is not desirable, although comparative uniformity will be of much benefit in permitting students more freedom to migrate from one college to another and in facilitating a larger interstate reciprocity in the licensing of physicians.

The ten divisions of the curriculum and the subcommittee assigned to each are as follows:

SECTION 1.—ANATOMY, INCLUDING HISTOLOGY AND EMBRYOLOGY

Chairman: Charles R. Bardeen, M.D., Professor of Anatomy, University of Wisconsin, College of Medicine, Madison, Wis.

Albert C. Eycleshymer, Ph.D., Professor and Director of the Department of Anatomy, Histology and Embryology, St. Louis University, Grand Ave. and Carolina St., St. Louis.

Irving Hardesty, Ph.D., Assistant Professor of Anatomy, University of California, Medical Department, San Francisco.

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James P. McMurrich, Ph.D., Professor of Anatomy, University of Toronto, Medical Department, 576 Huron St., *Toronto, Canada.*

George A. Piersol, M.D., Professor of Anatomy, University of *Pennsylvania, Department* of Medicine, 4724 Chester Ave., Philadelphia.

SECTION 2—ORGANIC CHEMISTRY, PHYSIOLOGY AND PHYSIOLOGIC CHEMISTRY

[illegible] Lyon, Ph.D., Professor of Physiology, St. [illegible] [illegible]ool of *Medicine, St. Louis.*

[illegible], M.D., Associate Professor of Physiology, Johns Hopkins University, Medical Department, *Baltimore.*

Otto Folin, Ph.D., Professor of *Biologic Chemistry, Harvard* Medical School, Longwood Ave., Boston.

Walter E. Garrey, Ph.D., Professor of Physiologic Chemistry, Cooper Medical College, San Francisco.

Winfield Scott Hall, M.D., Professor of *Physiology, Northwestern* University Medical School, 2431 Dearborn St., Chicago.

Frederic S. Lee, Ph.D., Professor of *Physiology, Columbia University*, College of Physicians and Surgeons, New York City.

Warren P. Lombard, M.D., Professor of Physiology, University of Michigan, College of Medicine, 805 *Oxford Road*, Ann Arbor, Mich.

Graham Lusk, Ph.D., Professor of Physiology, Cornell University *Medical* College, 338 E. 26th St., New York City.

Gustav Mann, M.D., Professor of Physiologic Chemistry, Tulane University of Louisiana, New Orleans.

Albert P. Mathews, Ph.D., Professor of Physiologic Chemistry, University of Chicago.

SECTION 3.—PATHOLOGY AND BACTERIOLOGY

Chairman: William T. Councilman, M.D., Professor of Pathology, Harvard Medical School, 240 Longwood Ave., Boston.

J. G. Adami, M.D., Professor of Pathology, McGill University, Medical Department, Montreal, Canada.

W. M. L. Coplin, M.D., Professor of Pathology and Bacteriology, Jefferson Medical College, Tenth and Walnut Sts., Philadelphia.

Harold C. Ernst, M.D., Professor of Bacteriology, Harvard Medical School, 240 Longwood Ave., Boston.

James Ewing, M.D., Professor of Pathology, Cornell University Medical College, 256 W. 57th St., New York City.

Ludwig Hektoen, M.D., Professor and Head of the Department of Pathology, Rush Medical College, 5803 Washington Ave., Hyde *Park, Chicago.*

William T. Howard, M.D., Professor of Pathology, Pathological Anatomy and Bacteriology, Western Reserve University, 1838 E. 65th St., Cleveland, Ohio.

Richard M. Pearce, M.D., Professor of Pathology and Bacteriology, University and Bellevue Hospital Medical College, 338 East 26th St., New York City.

Alfred S. Warthin, M.D., Professor of Pathology, University of Michigan, College of Medicine and Surgery, 924 Baldwin Ave., Ann Arbor, Mich.

William H. Welch, M.D., Baxley Professor of Pathology, Johns Hopkins Medical School, 807 St. Paul St., Baltimore.

SECTION 4.—PHARMACOLOGY, TOXICOLOGY AND THERAPEUTICS

Chairman: Torai[illegible] Professor of Pharmacology and Materia Medic[illegible] [illegible]ratory, Western Reserve University Medical [illegible] Ohio.

John J. Abel, M.D., Professor of Pharmacology, Johns Hopkins University Medical School, Charles St. Ave. (P. O. Sta. L.), Baltimore.

Joseph A. Capps, M.D., Assistant Professor of Medicine, Rush Medical [illegible] Chicago, 100 State St., Chicago.

David [illegible] [illegible]istant Professor of Medicine, University of [illegible] Department, 1432 Pine St., Philadelphia.

Charles Wallis Edmunds, M.D., Junior Professor of Therapeutics and Materia Medica, University of Michigan, College of Medicine, 520 East Ann St., Ann Arbor, Mich.

John Taylor Halsey, M.D., Professor of Materia Medica, Therapeutics and Clinical Medicine, Tulane University of Louisiana, 124 *Baronne* St., New Orleans.

Egbert LeFevre, M.D., Professor of Therapeutics and Clinical Medicine, University and Bellevue Hospital Medical College, 52 West 56th St., New York City.

Eli H. Long, M.D., Professor of Materia Medica and Therapeutics, University of Buffalo, Medical Department, Buffalo, N. Y.

William De Berneire MacNider, M.D., Professor of Pharmacology and Bacteriology, University of North Carolina, Chapel Hill.

Oliver Thomas Osborne, M.D., Professor of Materia Medica and Therapeutics and Clinical Professor of Medicine, Yale Medical School, 252 York St., New Haven, Conn.

SECTION 5.—MEDICINE, INCLUDING PEDIATRICS AND NERVOUS AND MENTAL DISEASES

Chairman: George Dock, M.D., Professor of Medicine, Tulane University of Louisiana, 124 Baronne St., New Orleans.

George Blumer, M.D., Professor of the Theory and Practic[illegible] of Medicine, Yale Medical School, New Haven, Conn.

William Fitch Cheney, M.D., Professor of Principles and Practice of Medicine, Cooper Medical College, Shreve Bldg., San Francisco.

Henry A. Christian, M.D., Professor of the Theory and Practice of Physic, Harvard Medical School, 252 Marlboro St., Boston.

F. X. Dercum, M.D., Professor of Nervous and Mental Diseases, Jefferson Medical College, 1719 Walnut St., Philadelphia.

Frederick Forchheimer, M.D., Professor of Theory and Practice of Medicine and Clinical Medicine, Medical College of Ohio, Cincinnati.

Charles L. Greene, M.D., Professor of Medicine, University of Minnesota, College of Medicine and Surgery, Minneapolis.

L. Emmett Holt, M.D., Carpentier Professor of the Diseases of Children, Columbia University, College of Physicians and Surgeons, 14 W. 55th St., New York City.

John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania, Medical Department, Philadelphia.

W. Gilman Thompson, M.D., Professor of Medicine, Cornell University, Medical College, 34 E. 31st St., New York City.

SECTION 6.—SURGERY; GENERAL AND SPECIAL

Chairman: Charles H. Frazier, M.D., Professor of Clinical Surgery, University of Pennsylvania, Department of Medicine, 1724 Spruce St., Philadelphia.

Dudley Peter Allen, M.D., Professor of the Theory and Practice of Surgery and Clinical Surgery, Western Reserve University, Medical Department, 1110 Euclid Ave., Cleveland, Ohio.

Joseph A. Blake, M.D., Professor of Surgery, Columbia University, College of Physicians and Surgeons, 601 Madison Ave., New York City.

Herbert L. Burrell, M.D., Professor of Clinical Surgery, Harvard Medical School, 22 Newbury St., Boston.

Frederick Henry Gerrish, M.D., Professor of Surgery, Medical School of Maine, 675 Congress St., Portland, Me.

William S. Halsted, M.D., Professor of Surgery, Johns Hopkins University, Medical School, Baltimore.

Rudolph Matas, M.D., Professor of General and Clinical Surgery, Tulane University of Louisiana, 2255 St. Charles Ave., New Orleans.

Lewis S. McMurtry, M.D., Professor of Abdominal Surgery and [illegible] of Louisville, Medical Department, The [illegible] Chestnut Sts., Louisville, Ky.

[illegible] M.D., Professor of the Principles of Surgery [illegible] Medico-Chirurgical College, 1904 Chestnut St., Philadelphia.

Harry M. Sherman, M.D., Professor of the Principles and Practice of Surgery, University of California, Medical Department, 2210 Jackson St., San Francisco.

SECTION 7.—OBSTETRICS AND GYNECOLOGY

Chairman: Joseph B. DeLee, M.D., Professor of Obstetrics, Northwestern University Medical School, 810-34 Washington St., Chicago.

John G. Clark, M.D., Professor of Gynecology, University of Pennsylvania, Department of Medicine, 2017 Walnut St., Philadelphia.

Edwin B. Cragin, M.D., Professor of Obstetrics and Gynecology, Columbia University College of P. and S., 10 W. 50th St., New York City.

J. Clifton Edgar, M.D., Professor of Obstetrics, Cornell University Medical College, 28 West 56th St., New York City.

Charles M. Green, M.D., Professor of Obstetrics, Harvard Medical School, 78 Marlborough St., Boston.

James R. Guthrie, M.D., Professor of Obstetrics and Gynecology, State University of Iowa, Medical Department, 1005 Locust St., Dubuque, Iowa.

Ernest S. Lewis, M.D., Professor of Obstetrics and Gynecology, Tulane University of Louisiana, 124 Baronne St., New Orleans.

Reuben Peterson, M.D., Professor of Obstetrics and Gynecology, University of Michigan, Department of Medicine and Surgery, 620 Forest Ave., Ann Arbor, Mich.

[illegible] Professor of Obstetrics and Gynecology, [illegible] ouis.

[illegible] bstetrics, Johns [illegible] St., Baltimore.

SECTION 8.—DISEASES OF THE EYE, EAR, NOSE AND THROAT

Chairman: George E. deSchweinitz, M.D., Professor of Ophthalmology, University of Pennsylvania, Department of Medicine, 1705 Walnut St., Philadelphia.

Diseases of the Eye

Edward Jackson, [illegible] of Colorado, School [illegible]

Myles Standish, [illegible] Harvard Medical Sch[illegible]

William H. Wilde[illegible] d of the Department of Ophthalmol[illegible] 103 State St., Chicago.

Diseases of the Ear

Clarence John Blake, M.D., Professor of Otology, Harvard Medical School, 226 Marlboro St., Boston.

B. Alexander Randall, M.D., Clinical Professor of Diseases of the Ear, University of Pennsylvania, Department of Medicine, 1717 Locust St., Philadelphia.

Frank C. Todd, M.D., Professor of Ophthalmology and Otology, University of Minnesota, College of Medicine, 304 Pillsbury Bldg., Minneapolis.

Diseases of the Nose and Throat

Cornelius G. Coakley, M.D., Professor of Laryngology, University and Bellevue Hospital Medical College, 53 W. 56th St., New York City.

D. Braden Kyle, M.D., Professor of Laryngology, Jefferson Medical College, 1517 Walnut St., Philadelphia.

John N. MacKenzie, M.D., Clinical Professor of Laryngology and Rhinology, Johns Hopkins Medical School, 870 Park Ave., Baltimore.

SECTION 9.—DERMATOLOGY AND VENEREAL DISEASES

Chairman: William A. Pusey, M.D., Professor of Dermatology and Clinical Dermatology, College of Physicians and Surgeons, 72 Madison St., Chicago.

John T. Bowen, M.D., Edward Wigglesworth Professor of Dermatology, Harvard Medical School, 14 Marlboro St., Boston.

William T. Corlett, M.D., Professor of Dermatology and Syphilology, Western Reserve University, Medical Department, 1935 Euclid Ave., Cleveland, Ohio.

Isadore Dyer, M.D., Professor of the Diseases of the Skin, Tulane University of Louisiana, New Orleans.

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Douglass W. Montgomery, M.D., Professor of Diseases of the Skin, University of California, Medical Department, 2419 California St., San Francisco.

Grover W. Wende, M.D., Clinical Professor of Dermatology, University of Buffalo, Department of Medicine, 471 Delaware Ave., Buffalo, N. Y.

SECTION 10.—HYGIENE, MEDICAL JURISPRUDENCE AND MEDICAL ECONOMICS

Chairman: F. F. Wesbrook, M.D., Professor of Pathology and Bacteriology, University of Minnesota, College of Medicine, Minneapolis.

Charles V. Chapin, M.D., Superintendent of Health, Providence, R. I.

Irving Fisher, Ph.D., Professor of Political Economy, Yale University, 460 Prospect St., New Haven, Conn.

John S. Fulton, M.D., Secretary-General, Sixth International Congress on Tuberculosis, 714 Colorado Bldg., Washington, D. C.

J. N. McCormack, M.D., Secretary Kentucky State Board of Health, Bowling Green, Ky.

C. O. Probst, M.D., Secretary Ohio State Board of Health, Columbus, Ohio.

M. P. Ravenel, M.D., Professor of Bacteriology, University of Wisconsin, Madison, Wis.

Franklin C. Robinson, A.M., Professor of Chemistry, Mineralogy and Natural Science, Bowdoin College, 214 Maine St., Brunswick, Me.

M. J. Rosenau, M.D., U. S. Public Health and Marine-Hospital Service, Washington, D. C.

Victor C. Vaughan, M.D., Professor of Hygiene and Physiologic Chemistry, University of Michigan, College of Medicine, Ann Arbor, Mich.

COLLABORATORS

Besides the regular members of the subcommittees there was a number of collaborators, or corresponding members to whom credit is due for many suggestions and much valuable assistance. These are as follows:

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Burton D. Meyers, M.D., Professor of Anatomy, Indiana University School of Medicine, Bloomington.

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Irving S. Haynes, M.D., Professor of Practical Anatomy, Cornell University Medical College, New York City.

PHARMACOLOGY, TOXICOLOGY AND THERAPEUTICS

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Herbert D. Pease, M.D., Director of the New York State Department of Health Laboratories, Albany.

Robert Spurr Weston, Sanitary Engineer, Boston.

George C. Whipple, Sanitary Engineer, New York City.

Iowa June Report

Dr. Louis A. Thomas, secretary of the Iowa State Board of Medical Examiners, reports the written examinations held at Des Moines, June 1-3 and 22-23, 1909, and at Iowa City, June 9-11, 1909. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 99, of whom 92 passed and 7 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
[illegible] iversity	(1908)	79.5
[illegible] Medical School	(1906) 88.7; (1907) 84; [illegible]	77.9, 83.1.
Hahnemann Medical College and Hospital	(1907) 75.4; (1908) 83.1; (1909)	84.5.
College of Physicians and Surgeons, Chicago	(1909)	84.1, 85.1, 86.4, 88.2.
Rush Medical College	(1905) 90; (1906)	90.1
Drake University	(1909)	75, 79.4, 79.7, 80, 81.5, 82.7, 83.6, 83.7, 84.9, 85.5, 86, 86.2, 87.9, 88.7, 89.4, 89.6, 89.7, 90.2.
University of Iowa, College of Medicine	(1909)	77.9, 80.6, 81, 82.1, 82.2, 82.2, 83.6, 83.7, 83.7, 84, 84.1, 84.2, 84.5, 84.5, 84.7, 84.9, 85, 85.2, 85.4, 85.4, 85.5, 85.9, 86.2, 86.4, 86.6, 86.4, 86.9, 86.9, 87, 87.1, 87.2, 87.4, 87.4, 87.7, 88, 89, 89.4, 90, 90.6, 91, 92.4, 92.6.
University of Iowa, College of Homeopathic Medicine	(1909)	86.5, 86.9, 89.5.
Sioux City College of Medicine	(1909)	75.2, 76.9
Johns Hopkins University	(1909)	81.6, 84.1
St. Louis College of Physicians and Surgeons	(1909)	76.5, 78.
Washington University, St. Louis	(1894)	76.7
University of Missouri	(1909)	82.5
University Medical College, Kansas City	(1909)	76.9
Creighton Medical College	(1909)	86.7
Ohio Medical University	(1896)	84.2
Jefferson Medical College	(1909)	90.1
Wisconsin College of Physicians and Surgeons	(1909)	80.2
Marquette University, Milwaukee	(1909)	77.4

FAILED

College	Year Grad.	Per Cent.
Chicago College of Medicine and Surgery	(1909)	69.2
Keokuk Medical College	(1900)	65.4
Keokuk Medical College, College of Physicians and Surgeons,	(1901) 65.7;* (1906)	66.7.†
Drake University	(1909)	72.
University of Iowa	(1906)	67.6**
St Louis College of Physicians and Surgeons	(1909)	53.1

* Second examination. ** Third examination. † Fourth examination.

Marriages

William Edgar Lower, M.D., Cleveland, Ohio, to Miss Mabell Loring Freeman of Worcester, Mass., September 14.

Gideon Harmer Patton, M.D., Philadelphia, to Miss Martha Emerick of Harrisburg, Pa., at Philadelphia, September 15.

Charles Walter Waddell, M.D., Fairmont, W. Va., to Miss Myrtle DeVene Shaw Hoult, of Baltimore, September 14.

Guy Luvergne Bliss, M.D., Three Rivers, Mich., to Miss Edith Gertrude Smith, of Oskaloosa, Iowa, September 1[illegible]

Emil Francis Tholen, M.D., Tropico, Cal., to Miss Mary Sydney Shephard of Fort Madison, Iowa, September 15.

George Stanberry Walker, M.D., to Miss Mabel Robinson, both of DeLand, Ill., at Bloomington, Ill., September 15.

James B. Padgham, M.D., Donahue, Iowa, to Miss Ida Louise Battey of West Liberty, Iowa, September 8.

Francis Albert Brugman, M.D., Minot, N. D., to Miss Mabel V. Shalla of Iowa City, Iowa, September 15.

Edward Carlon Ferguson, M.D., to Miss Etta Louise Schwartz, both of Edwardsville, Ill., September 7.

William Frederick Zierath, M.D., to Miss Lydia Clair Hoehle, both of Sheboygan, Wis., September 17.

Gustavus Charles Dohme, M.D., Baltimore, Md., to Miss Ada Frances Chinn, at Baltimore, September 15.

E. Carlton Foster, M.D., Penn Yan, N. Y., to Miss Pearl A. Wixom of Hammondsport, N. Y., September 9.

John W. Sneed, M.D., Brentwood, Tenn., to Miss Margaret Williams of Nashville, Tenn., September 15.

J. Burton Rutherford, M.D., to Miss Bessie H. Shipley, both of Wilmington, Del., September 20.

Wibb Earl Cooper, M.D., U. S. Army, to Miss Pearl Herron of Nashville, Tenn., September 15.

Lewis Carthrae, Jr., M.D., Corder, Mo., to Miss Ella Mallonee of St. Louis, September 1.

Elijah C. Trout, M.D., to Miss Vernice L. Petty, both of Birds, Ill., September 8.

Deaths

William Christopher Krauss, M.D. Bellevue Hospital Medical College, New York City, 1886; University of Berlin, Germany, 1888; of Buffalo, N. Y.; a member of the American Medical Assotion and American Neurological Association; a member of the board of managers of the Buffalo State Hospital; medical superintendent of the Providence Retreat for the Insane; consulting neurologist to the Buffalo General, Erie County, German Deaconess, Emergency and Woman's hospitals, and the Buffalo Eye and Ear Infirmary; one of the editors of the *Buffalo Medical Journal*; an alienist and neurologist of repute; author of a work on syringomyelia and other spinal cord tumors; and translator of Mendel's work on "Psychiatry, a Study of Insanity," died suddenly in the New York Hospital, September 21, from nervous breakdown, aged 45.

Thomas Hovey Gage, M.D. Harvard Medical School, Boston, 1852; medical director and vice-president of the State Mutual Life Assurance Company, Worcester, Mass.; an original trustee of Washburn Memorial Hospital; a trustee and treasurer of Clark University; president of the Massachusetts Medical Society from 1886 to 1888; a member of the American Antiquarian Society; in charge of the hospital ship *Knickerbocker* during the Civil War; for many years a member and president of the board of trustees of the Worcester City Hospital; died at his home, September 17, from heart disease, aged 83.

George Howell, M.D. University of Michigan, Ann Arbor, 1863; a member of the Michigan State Medical Society, and for many years a member of the American Medical Association; from 1882 to 1886 a member of the legislature and for one term state senator; for fifteen years a member of the board of education, and one year president of the village of Tecumseh, Mich.; died at the home of his daughter in Macon township, September 14, from cerebral hemorrhage, aged 72.

James Galloway Buchanan, M.D. New York University, New York City, 1848; of Pittsburg, Pa.; local surgeon to the Pennsylvania System for 49 years; a member of the staff of the Allegheny General Hospital; surgeon of the Thirty-second and One Hundred and Twenty-fifth Ohio Volunteer Infantry throughout the Civil War; one of the oldest practitioners of western Pennsylvania; died at the home of his daughter in Pittsburg, September 14, aged 85.

John W. Coffin, M.D. Western Reserve University, Cleveland, 1889; a member of the American Medical Association; formerly of Beaver Falls, Pa.; major and surgeon of the Tenth Pennsylvania Infantry, U. S. V., during the Spanish-American War; and later in charge of the Bilibid Hospital, Manila; after his removal to Texas, captain and assistant surgeon in the Texas National Guard; died at his home in El Paso, September 16, aged 42.

George Lafayette Martin, M.D. College of Physicians and Surgeons, Baltimore, 1877; a member of the South Carolina Medical Association; for eight years supervisor of vaccination and quarantine for the Piedmont section of South Carolina under the State Board of Health; died at his home near Greenville, September 16, aged 55.

Richard S. Forsyth, M.D. Detroit (Mich.) College of Medicine, 1892; of Houston, Texas; a member of the American Medical Association; formerly local surgeon to the Northwestern System at Escanaba and physician of Delta county, Mich.; died at his summer home in La Porte, Texas, September 10, aged 42.

Joseph W. Wassall, M.D. College of Physicians and Surgeons, Chicago, 1884; of Chicago; a member of the American Medical Association; for several years dentist to the Czar of Russia; was washed from the deck of a yacht in Lake Michigan, off Racine, Wis., September 18, and drowned, aged 51.

Henry E. Thornton, M.D. Barnes Medical College, St. Louis, 1901; a member of the American Medical Association; died at his home in Maplewood, St. Louis, September 12, from the effects of carbolic acid, taken, it is believed, with suicidal intent, aged 30.

Philip G. Nichols, M.D. Missouri Medical College, St. Louis, 1872; for fifty years a practitioner of Pike county, Mo.; a clergyman of the Methodist Episcopal Church South; died at his home in Ashley, September 11, from cerebral hemorrhage, aged 69.

Benjamin L. Stovall, M.D Memphis (Tenn.) Hospital Medical College, 1884; of Lonoke, Ark.; a member of the Arkansas Medical Society; died in the Physicians and Surgeons' Hospital, Little Rock, Ark., September 14, from nephritis, aged 50.

William Benjamin Artz, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878; for six years a member of the council of Osage City, Kan., and for four years mayor of the city, died at his home, September 12, from asthma, aged 59.

Julius B. Huber, M.D. Beaumont Hospital Medical College, St. Louis, 1896; of South St. Louis; a member of the Missouri State Medical Association; died in St. Anthony's Hospital, St. Louis, September 15, from tuberculosis, aged 49.

Alfred Meyers Fisher, M.D. Jefferson Medical College, Philadelphia, 1890; of McAlisterville, Pa.; died in Lebanon, Pa., May 22, from the effect of hydrocyanic acid, self-administered, it is believed with suicidal intent, aged 40.

Grenville Smith Stevens, M.D. College of Physicians and Surgeons, New York City, 1854; for more than half a century a practitioner of Providence, R. I.; died at his home in Edgewood, Providence, September 16, aged 80.

G. N. Harcy, M.D. University of Budapest, Hungary, 1848; surgeon in the Austro-Hungarian service, and exiled with Kossuth in 1852; died at his home in Bellevue, Ohio, September 14, from a congestive chill, aged 79.

Augustus Benjamin Southwick, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1867; physician to the Rome (N. Y.) City Hospital; died at his home in that city, September 11, from pneumonia, aged 69.

John Dambach, M.D. University of Buffalo (N. Y.), 1868; a member of the Medical Society of the State of New York; surgeon of volunteers during the Civil War; died at his home in Buffalo, September 15, aged 67.

Winfield Scott, M.D. Medical College of Ohio, Cincinnati, 1877; of Senecaville, Ohio; while making a professional call in Byesville, Ohio, died suddenly, September 14, from heart disease, aged 61.

John Sydenham Wilson, M.D. Kansas City (Mo.) Medical College, 1874; a member of the State Medical Association of Texas; died suddenly at his home in Houston, Texas, September 12, aged 59.

Ezra A. Palmer, M.D. University of Michigan, Ann Arbor, 1876; Northwestern University Medical School, Chicago, 1886; died at his home in Hartford, Mich., September 18, from nephritis, aged 62.

John Wheeler Pray, M.D. Harvard Medical School, Boston, 1879; a member of the New Hampshire Medical Society; died at his home in Northwood, June 19, from tuberculosis of the bowels, aged 57.

Charles Henry Springer, M.D. Wooster University, Cleveland, Ohio, 1882; of Cleveland; died in the Cleveland City Hospital, September 17, it is said, as the result of drug addiction, aged 48.

Fremont C. Warne (license, Mich., years of practice, 1900); one of the oldest practitioners of northern Michigan; died at his home in East Jordan, September 12.

William H. C. Moore, M.D. Rush Medical College, Chicago, 1867; died at his home in Essex, Iowa, September 4, from carcinoma of the stomach, aged 68.

Clarence Stephen Perry, M.D. Long Island College Hospital, Brooklyn, N. Y., 1885; died at his home in South Brooklyn, September 16, from pleurisy, aged 44.

Truman Squire Sumner, M.D. New York University, New York City, 1871; died at his home in Brooklyn, September 17, from nervous breakdown, aged 62.

Ernest E. Adelsberger, M.D. University of Maryland, Baltimore, 1902; died at his home in Baltimore, September 16, from tuberculosis, aged 30.

Daniel Young, M.D. formerly of Adolphustown, Ont., died at his home in Toronto, February 22, from edema of the lungs, aged 77.

Carl Schleifenheimer (license, Berks county, Pa.); died at his home in Reading, Pa., August 6, aged 81.

Sir Stephen Mackenzie, M.D. Aberdeen, 1875; M.R.C.S., England, 1869; F.R.C.P., London, 1879; of London, England; medical registrar and assistant physician of the London Hospital; formerly president of the Metropolitan Counties Branch and president of the section of medicine of the British Medical Association in 1897; formerly president of the Hunterian Society; lecturer on medicine and pathology in the London Hospital Medical Society; consulting [illegible] ondon hospitals; Lettsomiam lecturer [illegible] uptoms and treatment of anemia befor [illegible] of London in 1891; orator of the same society in 1902, when he delivered the annual oration on "The Powers of Natural Resistance, or the Personal Factor in Diseases of Microbic Origin;" an untiring research worker, whose labors on albuminuric retinitis, filariasis, sleeping sickness and anemia were especially notable; died at the home of his son in Dorking, Surrey, September 3, aged 64.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Medical Defense Adopted in Michigan

The Michigan State Medical Society at its recent meeting in Kalamazoo adopted the plan of medical defense proposed a year ago. The by-laws of the state society were amended so as to provide for: (1) an initial assessment of $1.50 from each member of the state society for the year 1910; (2) an annual per capita assessment thereafter of $1 per year; (3) a standing committee on medical defense consisting of an executive board of five and one member from each county society. The executive board is to be elected by the council for five years. The other members of the standing committees are to be elected by the county societies for one year. The chairman of the executive board, to be elected by the council of the state society for a term of one year, is to be the custodian of the defense fund. The executive board is authorized to retain by the year a competent firm of attorneys. Any member not in arrears is entitled to the benefits of the medical defense plan when sued or threatened with suit for civil malpractice. Dues must be paid before June 1. No member is entitled to defense in a suit the cause of which arose while the member was in arrears. Two years' liability is assumed for each member, provided suit was threatened or begun before the member joined the society or before the medical defense plan was established. Suits brought against the estate of a deceased member are also defended. All attorneys' fees and court costs are to be paid from the defense fund, but no damages assessed against any defendant will be paid. Each county society in the state is given the right to withdraw from the benefits of the medical defense plan on a majority vote of all of the members of the society.

The adoption of this feature by the Michigan State Medical Society is an extension of medical defense from the Wayne County Medical Society to the rest of the state, the plan having been first tested in Detroit. In many points the development of medical defense in Michigan is similar to that in Illinois, in which it was first taken up by the Chicago Medical Society, and later extended to the entire state. The proposed plan was submitted to the county societies and has been thoroughly and carefully discussed during the past year. Its adoption by a practically unanimous vote shows that the members of the state society were thoroughly convinced of the value of the plan. A number of objections similar to those raised in other states were made against the proposal. It is safe to say, however, that in the course of a year all of these objections will disappear in the light of practical experience and that the medical defense feature will become one of the most valued of membership privileges.

Medical Poor Relief in England

The supplement to the *British Medical Journal* for August 21 contains an address on "The Medical Aspect of the Report of the Royal Commission on Poor Law Reform" by Dr. H. Manley, President of the Birmingham branch of the British Medical Association. His discussion of medical relief of the poor is of particular interest in view of the recent consideration given the abuse of medical charities by some of our larger local organizations. Dr. Manley says: "The recent showing of the report of the Poor Law Commission has furnished me with an opportunity of discussing the grievous disabilities under which we are laboring as a profession. . . . [illegible]ver has there been a moment in our professional history [illegible]n there was greater need or greater opportunity for the general medical practitioners of this country to decide for themselves what is to be done for them and then to take united action to induce . . . the great departments of the state to recognize and to protect a body of its most highly trained citizens who are indispensable to its welfare and who receive a very scant return, either in cash or courtesy, for the services rendered to the public and to the government."

After discussing the lack of united action, which he considers the cause for this condition, Dr. Manley states that there are at present in England and Wales 3,713 physicians holding appointments as district medical officers, who in the past year attended 216,022 patients, in addition to those who were also in receipt of regular parish pay and to inmates of the poor law infirmaries. This relief he estimates to have cost about $2,500,000, which does not, however, represent the net income of the district medical officer, many of whom, according to the report of the Royal Commission, do not receive more than eight or twelve cents a visit. Dr. Manley also criticizes the details of administration and the character of relief afforded under the present poor law and concludes, "In plain English, a great part of this half million of money is spent in providing the poor with bottles of medicine—a dark medicine with a strong taste, preferably that of peppermint. . . . As the local medical humorist wrote, 'You just tell the medicine by the corks. If the cork is black you know it's the iron tonic; if it is stained brown with a crust on it, its the rhubarb and soda; and if it isn't any color at all it's the salts and the quassia. The pot. nit. you can tell by the taste, and the asafetida and bromid by the smell. And that's all, except the cough mixture, which smells of paregoric. It's only fools as wants prescription books.'"

Dr. Manley reviews at length the report of the Royal Commission as well as the minority report submitted by two members, and from the entire discussion draws the following conclusions: "It is abundantly evident that we are on the eve of great and sweeping changes in the administration of medical aid. The reform of the poor law . . . is inevitable. . . . Two schemes will be before the country: (1) The arrangement of all medical relief on a provident basis; (2) the establishment of a state medical service with power to the state to recover the cost from those who can afford to pay." Owing to the higher ratio existing in England between the number of physicians and the total population as compared with the United States, as well as the relatively larger number of persons coming under the operation of the poor laws in England, this question is one of great importance to the British medical profession. In both the question of contract practice and that of the administration of medical charities, we can learn much from the experiences of English physicians, and can perhaps profit by the attempts that have been and are being made in England to solve these questions equitably. The report of the Royal Commission, as well as the discussion thereon, should be read and carefully considered by those interested in similar problems in this country.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Second Month—First Weekly Meeting

DISEASES OF THE BRAIN

ANATOMY OF BRAIN

MEMBRANES OF BRAIN: (1) Dura mater—structure, attachments; (2) arachnoid—structure, subarachnoid space; (3) pia mater—structure.

PORTIONS OF BRAIN: Medulla, pons Varolii, cerebellum, midbrain, cerebrum.

VENTRICLES: Lateral, third, fourth, foramen of Majendie, aqueduct of Sylvius, communications, contents.

DISTRIBUTION OF GRAY MATTER: (1) In the bulb; (2) in the pons; (3) in the midbrain; (4) in the cerebrum; (5) in the cerebellum.

STRUCTURE OF BULB: Shape, size, surfaces, white matter, gray matter, pyramids, olives, restiform bodies, funiculi, corpora quadrigemina.

STRUCTURE OF PONS: Distribution of white and gray matter.

STRUCTURE OF MIDBRAIN: White and gray matter, aqueduct, fillet. Crus cerebri. Origin of cranial nerves.

CEREBELLUM: Vermis, hemispheres, peduncles, white and gray matter.

CEREBRUM: Hemispheres, corpus callosum, cortex, lobes, basal ganglia, corpus striatum, optic thalamus, internal capsule, corona radiata, projection fibers, association fibers, commissural fibers.

BLOOD-VESSELS: (a) To meninges; (b) to pia and brain substance. Circle of Willis and branches. Charcot's "artery of cerebral hemorrhage." Cerebral veins and sinuses.

PHYSIOLOGY OF THE BRAIN

SENSORI-MOTOR AREA: Fissure of Rolando, anterior and posterior central gyri, paracentral lobule, operculum, third frontal gyrus. Leg, arm and head regions. Hemiplegia, monospasm, Jacksonian epilepsy. Muscular sense, parietal lobes. Pressure, pain, temperature, sense.

SPEECH AREAS: Sylvian fissure, third frontal convolution, motor aphasia. First and second temporal convolutions, sensory aphasia. Visual speech area, lower parietal. Right- and left-handed persons.

SIGHT AREA: Occipital lobes, hemianopsia. Two visual centers.

Sound Area: First and second temporal convolutions.
Psychic Centers: Frontal lobes. "Silent Areas."
Functions of Cerebellum: Co-ordination, psychical functions, location of function.
Functions of Medulla: Respiratory and circulatory centers.
Cerebral Topography: Fissure of Rolando, fissure of Sylvius. Horseley's method, Kronlëin's method, Chiene's method.

Society Proceedings

COMING MEETINGS

Amer. Academy of Ophth. and Oto-Laryngology, New York, Oct. 4-6.
Amer. Association of Railway Surgeons, Chicago, October 20-22.
Assn. of Military Surgeons of U. S., Washington, D. C., October 5-8.
American Public Health Association, Richmond, Va., October 19-22.
Delaware State Medical Association, Dover, October 8.
Indiana State Medical Association, Terre Haute, October 7-8.
Kentucky State Medical Association, Louisville, October 19-21.
Minnesota State Medical Association, Winona, October 13-14.
Mississippi Valley Medical Association, St. Louis, October 12-14.
South Dakota State Medical Association, Aberdeen, October 6-8.
Vermont State Medical Assn., White River Junction, Oct. 14-15.
Virginia, Medical Society of, Roanoke, October 5-8.
West Virginia State Medical Association, Elkins, October 6-8.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Twenty-Second Annual Meeting, Held at Fort Wayne, Ind., Sept. 21-23, 1909

The President, **Dr. William Henry Humiston**, Cleveland, Ohio, in the Chair.

An address of welcome was made by Dr. H. A. Bruggemann, president of the Fort Wayne Medical Society, and was responded to by Dr. James Edgar Sadler, Poughkeepsie, N. Y.

Advantage of the Combined Intraperitoneal and Extraperitoneal Urethro-Lithotomy for Removal of Stones from Lower Ureter

Dr. Ernst Jonas, St. Louis: In this paper I call attention to the respective value of the various methods of examination in the diagnosis of ureteral stone and emphasize the importance of not relying on any one of these methods, but on a combination of all of them. Particularly important are repeated examinations of the urine, especially after attacks of kidney colic, and thorough physical examination with repeated vaginal and rectal examinations, good radiographs, and cystoscopic examination, with catheterization of the ureters.

The proper operation for the removal of stones from the lower ureter (brim of the pelvis down to the bladder) must not only offer the simplest technic but must permit an examination for possible etiologic factors, as adhesions around the appendix, tubes and ovaries, or retroflexion of the uterus. The above conditions may produce ureteritis, periureteritis, or increase the normal bend of the ureter to such a degree that it becomes kinked. As a result, small kidney stones may be arrested or increased in size in the ureter, or a stone may be primarily formed in the ureter and remain there *in situ*. The only operation which enables us to remove these causes for ureteral stone and thus prevent recurrence of the stone is the combined intraperitoneal and extraperitoneal ureterolithotomy. The intraperitoneal steps serve for the repair or removal of such pathologic conditions, and in addition facilitate the finding of the ureteral stone. The extraperitoneal steps serve for the removal of stone. I advocate, therefore, that the combined intraperitoneal and extraperitoneal ureterolithotomy become the typical operation for the removal of stones from the lower ureter.

DISCUSSION

Dr. John Young Brown, St. Louis: In my own work, and in watching the work of others, I have frequently been impressed with the fact that the appendix may be removed when macroscopically there seems to be no indication that it was at fault. The anatomic relationships of the appendix and ureter are interesting. During the last year I have been studying this by cross-section work and by injecting the appendix with bismuth, doing skiagraphic work in all cases sent to my clinic with a diagnosis of appendicitis, in which I have found stones in the ureter, but in which the appendix was not diseased. I do not know of any condition that is more difficult to differentiate than certain forms of chronic appendicitis and stones in the ureter. In the last year I have had nine cases, three of them being in physicians in whom the differential diagnosis was exceedingly difficult. In one case I found a shadow of a supposed stone in the ureter, which proved to be a concretion in the appendix. I removed the appendix, which was retrocecal. In another case a physician's brother was sent to me with a diagnosis of appendicitis. I found blood in the urine. Roentgen examination seemed to indicate stone in the ureter. I did the combined operation, and removed not only a stone from the ureter but the appendix, which was adherent to the right ureter, and I am inclined to believe that the condition around the appendix had a good deal to do with the development of the stone in the ureter.

Dr. A. H. Ferguson, Chicago: A man presented himself at the Chicago Hospital on Sept. 15, 1909, with the following history: Four years ago he had a very severe attack of kidney colic, in the left kidney. He was laid up two weeks, and since then has had several minor attacks, referable to the region of the ureter. The patient is a healthy man of 58. The radiographs showed a stone in the lower end of the left ureter, between one and two inches from the bladder. The sound and cystoscope revealed nothing of the nature of calculus in the bladder. The left ureteral orifice protruded somewhat and was a trifle redder than normal. The patient was given, besides the usual preparation for laparotomy, hexamethylenamin and methylen blue. The anesthetic was ether, given by the drop-method. A skin incision was made directly over the external ring, extending upward along the course of the inguinal canal for five inches. The aponeurosis of the external oblique muscle was opened freely, exposing the entire inguinal region, and internal oblique muscle. The internal abdominal ring was enlarged without opening the peritoneal cavity. The transversalis fascia was severed along the entire length of the incision, exposing the deep epigastric vessels which were ligated and cut. The vas deferens was taken as the guide to the ureter. It was followed by blunt dissection to the base of the bladder. The sigmoid and small bowel were pressed toward the median line by gauze sponges. To obtain sufficient room to admit the hand, the origin of the internal oblique and transversalis muscles was severed from Poupart's ligament for a distance of two inches. This afforded room to reach and explore the ureter from the pelvic brim to the base of the bladder. The stone was felt in the ureter. An effort was then made to milk it into the bladder or toward the kidney. Both these measures proved impossible. An incision was made into the ureter, parallel to its long axis, about one inch below the brim of the pelvis. A stout catgut ligature had been passed around the duct as a guy-rope. The ureter was empty. There was no staining of the tissues with methylene blue. It was thus evident that anuria existed in the left kidney. An olive, flexible, bougie was passed into the ureter and the stone located. The grating of the probe against the stone could be distinctly heard. Another attempt was made to shove the stone into the bladder, but it was unsuccessful. Then a long, curved, alligator-jawed forceps was passed into the opening in the ureter. The stone was seized in its blades and carefully extracted. The entire course of the ureter from kidney to bladder was explored and found perfectly clear. No attempt was made to suture the ureter. The loose tissues on either side of the wound were drawn together, and the same suture caught about a gauze drain, covered with rubber tissue. This drain was brought out, at the upper angle of the wound. The cord was left behind the transversalis fascia. This structure, with the transversalis and internal oblique muscles were sutured to Poupart's ligament. The lower angle of the wound was drained with a cigarette drain which passed down to the side of the bladder. The external oblique was closed with continuous catgut suture, and the skin with silkworm gut sutures. A catheter was passed into the bladder to keep it empty. The procedure varies with the side of the body. If the colicky attacks are on the right side, the appendix must be thought of, and there is an indication for opening the abdomen. If the attacks are on the left side, and the patient is a man, there is no indication for opening the abdomen because such a stone can be removed more safely without the complication of an additional cut in the peritoneum. In women these stones can be reached through the bladder, when they are low down, depending on the size, etc.

Dr. H. W. Longyear, Detroit: I have seen many operations on the appendix that were not justified and were prompted by the pain in the ureter under a mistaken diagnosis. In these cases we see more or less of what we may call storms of uric acid coming from intestinal toxemia. Large quantities of uric acid are thrown out from the kidney, passed down the ureter, causing inflammation of the ureter and pain, and when the pain is on the right side the condition is apt to be mistaken for appendicitis, and the temperature arising from the toxemia simulates appendicitis still more.

Dr. Miles F. Porter, Fort Wayne, Ind.: I recall a recent case in which there was typical ureteral colic and anuria. The patient had had nephritis for years. In this case, as the subsequent post-mortem revealed, there was no calculus formation whatever. Moreover, the case illustrated the value of the skiagraph. The skiagram in this case showed no ureteral calculus.

Dr. C. C. Frederick, Buffalo: There is no question but what there are many cases of pain in the right ureter for which the appendix in the past has been blamed and removed. I have seen a number of cases of this kind in my own practice as well as in that of others, and I have been forced during the last three or four years to a realization of the fact that pain on the right side on pressure deep down over McBurney's point does not always mean that a patient has chronic appendicitis, and I believe that in many instances the trouble is in the ureter.

Dr. M. I. Rosenthal, Fort Wayne, Ind.: Four or five years ago I reported a case of ureteral stone, complicating appendicitis. This was the only case I had then seen of ureteral calculus complicating appendicitis. Since then I have been careful to investigate the right ureter in operations for appendicitis, but I have not seen another such case. This would indicate that this complication is not frequent, although it does occur.

Dr. Hugo O. Pantzer, Indianapolis: In operating on a case of gangrenous cholecystitis, with a discharge of the contents of the gall-bladder into the peritoneal cavity, I was led to examine lower down and found that at the bifurcation of the abdominal aorta a number of stones which were hard and fixed to the feel. I removed one of these stones and found it to be a calcareous degeneration of tuberculous glands. The history of the case would seem to show that this woman, 50 years of age, had in early life a tuberculosis of this part.

Dr. John W. Keefe, Providence, R. I.: In one case I introduced a wax-tipped catheter and found markings on the wax. The catheter was introduced in the pelvis of the kidney, and on the day the patient was to be operated on I again passed the wax-tipped catheter to the kidney, made my incision in the loin, and found the catheter in contact with a stone in the kidney, showing that the first markings on the wax were correct.

Dr. K. I. Sanes, Pittsburg, cited a case illustrating the difficulty of making a differential diagnosis between ureteral trouble and appendicitis, saying that this difficulty is not only encountered in chronic but in acute cases of appendicitis.

(To be continued)

MICHIGAN STATE MEDICAL SOCIETY

Forty-Fourth Annual Meeting, held at Kalamazoo, Sept. 15-16, 1909

(Continued from page 1048)

Syphilis of the Liver—Unusual Types

Dr. A. R. Edwards, Chicago: Syphilis of the liver is not fully appreciated either in practice or in the literature. Syphilis of the liver typically includes gummata and syphilitic cirrhosis. Aside from the close resemblance to cancer frequently presented by large and multiple gummata, cancer is frequently simulated by hepatic syphilis when gummata in the liver are attended by pain, ascites, icterus and emaciation. Alimentary symptoms are common in hepatic syphilis. A luetic cachexia may make differentiation impossible except by the therapeutic test, etc. In a second group of cases, gummata may exactly mimic abscess of the liver; deception is most likely when gummata cause fever, chills, hepatic tenderness, pain and enlargement; leucocytosis, emaciation and even fluctuation may be observed also. In a third series, local hepatic symptoms are lacking and the rigors, fever, sweats, etc., may simulate malaria, typhoid, tuberculosis, or septicopyemia; the course may cover weeks or months. In a fourth group, gall-stones, cholecystitis or calculous obstruction of the common duct are suggested until the specific remedies or operation disclose the error. In the fifth group the symptoms are almost identical with those of alcoholic cirrhosis; even in far-advanced cases recovery may ensue under mercury and iodids. The sixth type is syphilitic pylephlebitis, of which an exceptional instance was reported; the course covered over four months and was first diagnosticated septic pylephlebitis. There was sudden pain over the portal vein with a precipitate and extreme ascites, great variations in temperature which frequently rose and fell six or eight degrees in a day, severe rigors, and profound anemia and emaciation. Rather late, syphilis was considered and recovery was immediate.

DISCUSSION

Dr. W. F. Breakey, Ann Arbor, Mich.: In acquired syphilis particularly, and that in early life the activity of this large gland must account in a large degree for the liver being the seat by preference of all the attacks of syphilis on the abdominal viscera. In all cases a thorough investigation should be made to determine the diagnosis. Many patients consult a physician with an obscure history or none at all; and even when a patient does not intend to deceive there may be abundant reason for suspecting syphilis. The period of latency is usually uncertain, and it may cover a considerable number of years, and while the physician may prescribe treatment as an aid to diagnosis, yet he is entirely justifiable in so doing when other measures have been followed and no clew results. If with the modern tests for syphilis the *Spirochæta pallida* is found, the way is clear, and there is no hesitation as to what to do. If the spirochetes are not found, and they often are not, and a longer period elapses during which the disease is suspected, in the absence of clear and definite physical signs by which we may determine carcinoma or nodular conditions of the liver, it is right, in my opinion, to try antisyphilitic treatment. Our function as physicians is to treat this disease and to lessen it, if it is not possible for us to stamp it out. I do not see why it is not just as feasible to try to stamp out syphilis as tuberculosis. There is need for higher requirements by teaching bodies and examining boards on the subject of syphilis. We should encourage the study of this disease, and one essential thing is to disabuse the public mind of the disgrace of it, because so many patients who have the disease have acquired it innocently.

Dr. Andrew P. Biddle, Detroit: I wish to refer specifically to gummatous lesions, and would emphasize the point that time has no limits in the formation of gumma. While it is usually taught that gumma is a late-appearing lesion, yet we know that a patient may have gumma in certain forms of destructive syphilis as early as the first few months. Another point is the relationship of syphilis to other obscure conditions. When we consider that the influence of syphilis is particularly on the blood-vessels and on the nervous system, we can easily see why there is such a variety of manifestations. We know how difficult it is, even when we see cancer on the face, to differentiate it from some of the lesions of syphilis, and it is no wonder that it is difficult sometimes to differentiate these lesions when they involve the internal organs. It is difficult with all the manifestations present to differentiate between cancer of the liver or simple gummatous formation of the liver.

Dr. J. Collins Johnston, Grand Rapids: As an illustration of the good results of what we may call the diagnostic use of syphilitic treatment in doubtful cases of the kind referred to by Dr. Edwards, I want to report briefly an interesting case in my own experience. A year-and-a-half ago I was called to see a man in a little town near Grand Rapids who had been ill for several months, the prominent symptoms being those of alcoholic cirrhosis of the liver. He had been in the hospital two or three weeks and had been seen by several physicians, all of whom diagnosed either cancer of the liver or alcoholic cirrhosis. He went to Ann Arbor and was sent home to die of alcoholic cirrhosis of the liver. I do not know what prompted me to think the case might be syphilitic. It was decided by the attending physician and myself that the man had no hope if the diagnosis already made was correct. He had been in bed several weeks. He had been tapped a number of times, large quantities of liquid being removed from the abdomen. We put him on hypodermics of mercury and iodids internally. Under this treatment he improved rapidly, and two or three months later appeared in my office. I have seen him several times during the last year and apparently he is absolutely well, but his liver still remains large. I would like to ask Dr. Edwards if in a case of hypertrophic cirrhosis or syphilitic cirrhosis the liver ever returns to its normal size.

Dr. Frank Smithies, Ann Arbor: Three cases have come under my notice recently, all of which gave the hemolytic test by the original Wassermann procedure. One case particularly had been diagnosed as pernicious anemia, on account of anemia and symptoms of cachexia; it had also been diagnosed as carcinoma. The patient vomited constantly, lost 60 pounds, and altogether was in a bad way. The Wassermann test revealed the absence of hemolysis. The patient, after having vigorous lavage, promptly stopped vomiting, and was put on combined treatment. I saw him recently and he has gained within two pounds of his gross weight, and feels well in every way. A patient seen last year had an epigastric tumor, but there were no marked gastric symptoms. The patient insisted on being operated on; a portion of the tumor was removed and was found to be a gumma of the liver. A third case showed a roundish tumor in the epigastrium, which appeared to be beyond the stomach. The stomach could be inflated and did not move the tumor, which did not have any relation to the large bowel. It had no relation apparently to the liver, yet on opening the abdomen it was found to be a large gumma that had a deep connection with the liver; it cleared up to a certain degree under the combined treatment. All these patients gave the Wassermann reaction by the original procedure. The first patient has not given such a prompt reaction since the beginning of the combined treatment.

Dr. Morton, Battle Creek: I would emphasize the fact that there is such a thing as luetic fever. In the last three or four years I have had three cases that puzzled me a great deal. These patients had been treated for tuberculosis. One of them had been kept on the usual dietetic and fresh air treatment for nearly three months, and kept a regular temperature chart. He came under my care, and I could find nothing the matter with his lungs. I could not find any evidence of trouble in the respiratory tract. The man gave a history of having had syphilis seventeen years previously. I observed him for a few days, during which time the temperature ranged from 102 to 104 F. every afternoon, and in the morning it ranged from 99 to 100 F. I had read Janeway's article on luetic fever, and had also seen cases reported, and I tried the iodid treatment. In two days his temperature was normal, and two days later he had no further trouble. The other two patients behaved in the same way. It should be impressed on the minds of practitioners, therefore, that there is such a thing as luetic fever. In the cases mentioned, there was no enlargement of the liver, and I could find no abnormal condition of any of the organs of the body.

Dr. W. M. Donald, Detroit: Is it not a fact, borne out by autopsies, that hepatic syphilis in prenatal or postnatal life is of the interstitial type? Is it not a fact that hepatic syphilis in later life is almost entirely gummatous?

Dr. Arthur R. Edwards, Chicago: It is true that interstitial hepatitis is more frequent in the hereditary than in the acquired type of syphilis: and the converse is true, although either form may be observed in either type of syphilis. As a rule, the liver remains larger afterward, although in some instances there is apparent recovery. In other instances the liver becomes smaller than normal. With regard to cases resembling pulmonary tuberculosis, the type described by Janeway, and suggesting tuberculosis in the absence of any visceral findings, one cannot say in such instances that temperature of that variety is always due to syphilis of the liver. It may be due to syphilis of the bones, or to syphilis of any of the viscera. I think that the hypodermic method of treating these patients gives more rapid results than any other method of administering the mercury, although it is sometimes painful and some patients will not tolerate it.

Aneurism of the Descending Thoracic Aorta

Dr. Johann Flinterman, Detroit: This condition is rare. In aneurism of the descending aorta, which often escapes detection, the earliest symptom is pain, and the patient complains of it before there is a single other physical sign or indication of the presence of a tumor. One patient, a man of 43, had an aneurism of the descending aorta. He suffered for a long time with severe pain only, and after it, about a year and a half later, from cough, dyspnea, then stridor, expectoration of blood, and paresis of the left recurrent nerve. Syphilis and lead poisoning were suspected. The diagnosis of aneurism is easy in many cases, but in others extremely difficult, often impossible. Auscultation, the condition of the heart and arteries, symptoms due to intrathoracic pressure, and most of all, the Roentgen rays, are the means of helping in the diagnosis.

DISCUSSION

Dr. A. S. Warthin, Ann Arbor: Syphilis plays the chief, if not the entire part in the etiology of aortic aneurism. The Wassermann reaction, and more recent studies of the lesions confirm the old pathologic view that these aneurisms are syphilitic in origin.

Dr. Hugo A. Freund, Detroit: It was my good fortune to witness the post-mortem examination on the case reported by Dr. Flinterman. It was an unusual aneurism, in that its dilatations were saccular from the main fusiform dilatation. There were three separate ones which went out in different directions, one going upward and backward, adherent to the long, and posterior surface of the ribs, as well as posterior part of the chest. The other dilatation went distinctly outward and to the left. The one from which rupture took place was over the surface of the left bronchus. The left lung was filled with blood, and was absolutely airless. There was considerable fluid in the left pleural cavity. The effusion was old and had been brought about by some process of irritation. There was nothing else in the lung. Even with the *x*-ray it was impossible to make a diagnosis of this aneurism, yet the post-mortem revealed an unusual specimen.

Dr. J. Collins Johnston, Grand Rapids: I wish to report a case illustrating the value of the *x*-ray in the diagnosis of aneurism. Several years ago a man came to me who had great pain in the side of the neck, which had continued for two years. For three months he had a slight swelling at the junction of the strenum, and left clavicle and soreness on pressure. This swelling was of the hardness of stone, and was circumscribed. Percussion did not show any dulness to the right of the sternum, and for about an inch to the left, extending down to the second interspace, there is a point of interest in connection with what the *x*-ray picture showed. There were no physical signs of aneurism other than that. At my first examination I thought it might be syphilitic, tuberculous, or some osteomyelitic disease, due to some other cause. There was no difference in the radials, no signs of pressure on the bronchus or esophagus. The heart was normal and in its location. The sounds at the apex and base were normal. There was no accentuation of the second sound. I sent the patient to an *x*-ray man and he got a beautiful picture of aneurism of the ascending aorta. The picture showed that the aneurism extended a good deal farther to the left of the sternum than to the right. The tumor was a little larger than a dollar, and only a small part of the aneurism presented to the front. The man is now taking large doses of iodid of potassium.

Dr. A. R. Edwards, Chicago: I believe that practically all aneurisms are syphilitic, and this is borne out positively both pathologically and clinically.

(*To be continued*)

can be removed more safely without the complication of an additional cut in the peritoneum. In women these stones can be reached through the bladder, when they are low down, depending on the size, etc.

Dr. H. W. Longyear, Detroit: I have seen many operations on the appendix that were not justified and were prompted by the pain in the ureter under a mistaken diagnosis. In these cases we see more or less of what we may call storms of uric acid coming from intestinal toxemia. Large quantities of uric acid are thrown out from the kidney, passed down the ureter, causing inflammation of the ureter and pain, and when the pain is on the right side the condition is apt to be mistaken for appendicitis, and the temperature arising from the toxemia simulates appendicitis still more.

Dr. Miles F. Porter, Fort Wayne, Ind.: I recall a recent case in which there was typical ureteral colic and anuria. The patient had had nephritis for years. In this case, as the subsequent post-mortem revealed, there was no calculus formation whatever. Moreover, the case illustrated the value of the skiagraph. The skiagram in this case showed no ureteral calculus.

Dr. C. C. Frederick, Buffalo: There is no question but what there are many cases of pain in the right ureter for which the appendix in the past has been blamed and removed. I have seen a number of cases of this kind in my own practice as well as in that of others, and I have been forced during the last three or four years to a realization of the fact that pain on the right side on pressure deep down over McBurney
point does not always mean that a patient has chronic
pendicitis, and I believe that in many instances the tro
in the ureter.

Dr. M. I. Rosenthal, Fort Wayne, Ind.: Four
ago I reported a case of ureteral stone, cor
pendicitis. This was the only case I had then
calculus complicating appendicitis. Since
careful to investigate the right ureter
pendicitis, but I have not seen another
indicate that this complication is
does occur.

Dr. Hugo O. Pantzer, India
case of gangrenous cholecystitis,
tents of the gall-bladder into the pe
to examine lower down and found tha
the abdominal aorta a number of stones
fixed to the feel. I removed one of these st
to be a calcareous degeneration of tuberculous
tory of the case would seem to show that this wo
of age, had in early life a tuberculosis of this part.

Dr. John W. Keefe, Providence, R. I.: In one ca
troduced a wax-tipped catheter and found markings o
wax. The catheter was introduced in the pelvis of the kid
and on the day the patient was to be operated on I agai
passed the wax-tipped catheter to the kidney, made my incision in the loin, and found the catheter in contact with a stone in the kidney, showing that the first markings on the wax were correct.

Dr. K. I. Sanes, Pittsburg, cited a case illustrating the difficulty of making a differential diagnosis between ureteral trouble and appendicitis, saying that this difficulty is not only encountered in chronic but in acute cases of appendicitis.

(To be continued)

MICHIGAN STATE MEDICAL SOCIETY

Forty-Fourth Annual Meeting, held at Kalamazoo, Sept. 15-16, 1909

(Continued from page 1048)

Syphilis of the Liver—Unusual Types

Dr. A. R. Edwards, Chicago: Syphilis of the liver is not fully appreciated either in practice or in the literature. Syphilis of the liver typically includes gummata and syphilitic cirrhosis. Aside from the close resemblance to cancer frequently presented by large and multiple gummata, cancer is frequently simulated by hepatic syphilis when gummata in the liver are attended by pain, ascites, icterus and emaciation. Alimentary symptoms are common in hepatic syphilis. A luetic cachexia may make differentiation impossible except by the therapeutic test, etc. In a second group of cases, gummata may exactly mimic abscess of the liver; deception is most likely when gummata cause fever, chills, hepatic tenderness, pain and enlargement; leucocytosis, emaciation and even fluctuation may be observed also. In a third series, local hepatic symptoms are lacking and the rigors, fever, sweats, etc., may simulate malaria, typhoid, tuberculosis, or septicopyemia; the course may cover weeks or months. In a four
group, gall-stones, cholecystitis or calculous obstruction of
common duct are suggested until the specific remedies o
ation disclose the error. In the fifth group the sym
almost identical with those of alcoholic cirrhosis;
advanced cases recovery may ensue under mer
The sixth type is syphilitic pylephlebitis.
tional instance was reported; the co
months and was first diagnosticate
was sudden pain over the por
extreme ascites, great
quently rose and f
rigors, and pr
syphilis wa

D

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usually
know that
structive sy
point is the r
tions. When we
ticularly on the bl
can easily see why th
We know how difficult
face, to differentiate it fr
and it is no wonder that i
entiate these lesions when they
is difficult with all the manifest
between cancer of the liver or simp
the liver.

Dr. J. Collins Johnston, Grand Ra
tion of the good results of what we ma
use of syphilitic treatment in doubtf
kind referred to by Dr. Edwards. I w
briefly an interesting case in my own ex
year-and-a-half ago I was called to see a man

town near Grand Rapids who had been ill for several months, the prominent symptoms being those of alcoholic cirrhosis of the liver. He had been in the hospital two or three weeks and had been seen by several physicians, all of whom diagnosed either cancer of the liver or alcoholic cirrhosis. He went to Ann Arbor and was sent home to die of alcoholic cirrhosis of the liver. I do not know what prompted me to think the case might be syphilitic. It was decided by the attending physician and myself that the man had no hope if the diagnosis already made was correct. He had been in bed several weeks. He had been tapped a number of times, large quantities of liquid being removed from the abdomen. We put him on hypodermics of mercury and iodids internally. Under this treatment he improved rapidly, and two or three months later appeared in my office. I have seen him several times during the last year and apparently he is absolutely well, but his liver still remains large. I would like to ask Dr. Edwards if in a case of hypertrophic cirrhosis or syphilitic cirrhosis the liver ever returns to its normal size.

Dr. Frank Smithies, Ann Arbor: Three cases have come under my notice recently, all of which gave the hemolytic test by the original Wassermann procedure. One case particularly had been diagnosed as pernicious anemia, on account of anemia and symptoms of cachexia; it had also been diagnosed as carcinoma. The patient vomited constantly, lost 60 pounds, and altogether was in a bad way. The Wassermann test revealed the absence of hemolysis. The patient, after having vigorous lavage, promptly stopped vomiting, and was put on combined treatment. I saw him recently and he has gained within two pounds of his gross weight, and feels well in every way. A patient seen last year had an epigastric tumor, but there were no marked gastric symptoms. The patient insisted on being operated on; a portion of the tumor was removed and was found to be a gumma of the liver. A third case showed a roundish tumor in the epigastrium, which appeared to be beyond the stomach. The stomach could be inflated and did not move the tumor, which did not have any relation to the large bowel. It had no relation apparently to the liver, yet on opening the abdomen it was found to be a large gumma that had a deep connection with the liver; it cleared up to a certain degree under the combined treatment. All these patients gave the Wassermann reaction by the original procedure. The first patient has not given such a prompt reaction since the beginning of the combined treatment.

Dr. Morton, Battle Creek: I would emphasize the fact that there is such a thing as luetic fever. In the last three or four years I have had three cases that puzzled me a great deal. These patients had been treated for tuberculosis. One of them had been kept on the usual dietetic and fresh air treatment for nearly three months, and kept a regular temperature chart. He came under my care, and I could find nothing the matter with his lungs. I could not find any evidence of trouble in the respiratory tract. The man gave a history of having had syphilis seventeen years previously. I observed him for a few days, during which time the temperature ranged from 102 to 104 F. every afternoon, and in the morning it ranged from 99 to 100 F. I had read Janeway's article on luetic fever, and had also seen cases reported, and I tried the iodid treatment. In two days his temperature was normal, and two days later he had no further trouble. The other two patients behaved in the same way. It should be impressed on the minds of practitioners, therefore, that there is such a thing as luetic fever. In the cases mentioned, there was no enlargement of the liver, and I could find no abnormal condition of any of the organs of the body.

Dr. W. M. Donald, Detroit: Is it not a fact, borne out by autopsies, that hepatic syphilis in prenatal or postnatal life is of the interstitial type? Is it not a fact that hepatic syphilis in later life is almost entirely gummatous?

Dr. Arthur R. Edwards, Chicago: It is true that interstitial hepatitis is more frequent in the hereditary than in the acquired type of syphilis: and the converse is true, although either form may be observed in either type of syphilis. As a rule, the liver remains larger afterward, although in some instances there is apparent recovery. In other instances the liver becomes smaller than normal. With regard to cases resembling pulmonary tuberculosis, the type described by Janeway, and suggesting tuberculosis in the absence of any visceral findings, one cannot say in such instances that temperature of that variety is always due to syphilis of the liver. It may be due to syphilis of the bones, or to syphilis of any of the viscera. I think that the hypodermic method of treating these patients gives more rapid results than any other method of administering the mercury, although it is sometimes painful and some patients will not tolerate it.

Aneurism of the Descending Thoracic Aorta

Dr. Johann Flinterman, Detroit: This condition is rare. In aneurism of the descending aorta, which often escapes detection, the earliest symptom is pain, and the patient complains of it before there is a single other physical sign or indication of the presence of a tumor. One patient, a man of 43, had an aneurism of the descending aorta. He suffered for a long time with severe pain only, and after it, about a year and a half later, from cough, dyspnea, then stridor, expectoration of blood, and paresis of the left recurrent nerve. Syphilis and lead poisoning were suspected. The diagnosis of aneurism is easy in many cases, but in others extremely difficult, often impossible. Auscultation, the condition of the heart and arteries, symptoms due to intrathoracic pressure, and most of all, the Roentgen rays, are the means of helping in the diagnosis.

DISCUSSION

Dr. A. S. Warthin, Ann Arbor: Syphilis plays the chief, if not the entire part in the etiology of aortic aneurism. The Wassermann reaction, and more recent studies of the lesions confirm the old pathologic view that these aneurisms are syphilitic in origin.

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(To be continued)

INTERNATIONAL CONFERENCE ON LEPROSY

(Held in Bergen, Norway, Aug. 16-19, 1909)

(Continued from page 1046)

Transmission of Leprosy

Dr. Dehio, of Dorpat, Russia, maintained very emphatically the contagiousness of leprosy. Ehlers, of Copenhagen, referred to his experiments with parasitory human in sects which have been considered capable of spreading this disease, especially pulex and cimex lectularius, but he was not able to come to any determined conclusion. Dr. Sand of Trondhjem, Norway, in his thirty-five years' experience in the leprosarium of that city, having treated 1,558 lepers, has come to the conclusion that leprosy is not transmitted by immediate contact.

Dr. V. Dühring, Dresden, discussed hereditary transmission of leprosy. He has found that the disease affects the descendants so far as to deteriorate the race. The offspring of lepers are more subject to mortality, and, moreover, they show a disposition to acquire with infectious diseases, as tuberculosis. The transmission of leprosy from parents to children biologically and clinically is in no way probable. The direct transmission of leprosy to the fetus *in utero*, although theoretically possible, has never been proved.

Psychoses of Lepers

Dr. Moreina, of Rio de Janeiro, called attention to the psychoses of the lepers. He believes that in lepers there is no peculiar kind of insanity. Only the polyneuritic leprosy can be accompanied by the whole syndrome of Korsakow. At the onset of the disease not often can be found any kind of mental alienations. In many cases complications of leprosy, as tuberculosis, streptococcus infections, or arteriosclerosis may be cause of mental trouble in the lepers. The ordinary mental condition of the patients affected with leprosy is different and is greatly influenced by the duration of the disease, by the age, by education and the clinical forms of the disease.

Mental Disturbances in Leprosy

Professor de Beurmann, Paris, discussed the mental troubles in leprosy and the psychism of the lepers. He called attention to the mental condition of the lepers in the extreme East, which is far different from that of the Europeans. The Hindoos, the Malays and the Mongolians, although blind, mutilated and in the most terrible general condition, never [illegible]ow signs of mental trouble. In Asiatic asylums have been [illegible]und lepers jovial and satisfied with their condition. In consequence, the sadness and the despondency of the European lepers is more due to their education and to the consciousness of having a disease of hopeless prognosis.

Treatment

The meeting on Wednesday, August 18, was devoted entirely to therapy. Dr. von Deycke, of Hamburg, discussed nastin injections. Nastin is obtained as a neutral grease from the culture of a kind of streptothrix and it seems to be identical with the neutral fat obtained from the tubercle bacillus. This so-called streptothrix has been called *streptothrix leproides*, but has no other relation to the true leprosy bacillus than to contain a kind of nastin fat. The pure nastin has the ability to produce in some of the lepers more or less reaction of general or of local nature. The reaction is subject to the greatest oscillation. While some patients are absolutely refractory to its action, others show symptoms of so severe a nature as to jeopardize life. For these reasons nastin alone cannot be used in the treatment of leprosy. When nastin is mixed with such substances which *in vitro* remove the grease from acid-fast bacilli, like tubercle bacilli, then we obtain a preparation, which can be used as therapeutic means. One preparation is nastin-B., which is nastin combined with benzoyl chlorid in an oily solution. According to the degree of concentration, nastin-B. does not usually produce a very intense reaction, and can be obtained in a form which will not cause any reaction at all. Although nastin-B. is therapeutically much more sure and constant in its action than pure nastin, yet in individual cases it shows different action. Nastin-B. acts directly on the specific cause of leprosy in the sense of bacteriolysis, as it prepares the bacilli, by removing their fat, to be susceptible to bacteriolysis. In a large percentage of lepers treated with nastin-B. improvement has followed in the general feeling. Moreover, it seems that it has prevented the farther progress of the leprous process. The nastin treatment has to be continued for one year, in form of an intermittent therapy just as it is used in syphilis.

Treatment of Ophthalmic Diseases in Lepers

Dr. Lyder Barthen, Trondhjem, Norway, spoke first on treatment of non-leprous diseases in leprous eyes, then on the genuine leprous diseases of the eyes, finally the last stages of the leprous eye diseases and their treatment.

Nastin Treatment in Russia

Dr. E. Kiwull, Wenden, Livonia, Russia, spoke on his experience with nastin treatment in the leprosarium of Wenden. He had used only nastin-B. The injections although painful were well-borne. After the injection only an increase in the temperature occurred. In the symptoms during the treatment some better and some worse could be found. Frequently ulceration occurred of old infiltrations in tubercules and in scars. In several cases swelling and pains occurred in the ulnar nerve and its ramifications. It was often remarked that hard tubercles imbedded in the depth of the skin disappeared under its action leaving only a slight pigmentation. Ulcerations of the hard palate become much more flat and showed a tendency to heal up. Examination of the blood showed that nastin increased the number of leucocytes.

Nastin Treatment in Australia

Dr. J. Ashburton Thompson, Sidney, is greatly opposed to the use of nastin. He employed the injections in 5 selected cases: 4 of tuberculous leprosy and 1 of pure leprosy of the nerves. He continued the treatment for from 6 to 9 months. In 3 of the patients the disease remained as it was. In the nervous case, the pains increased. A child became much worse. He claims that nastin is an inert substance with some irritant and also caustic effects on the seat of injection. In none of the patients did the injection produce any local reaction, or any fever.

Treatment of Leprosy

Dr. H. P. Lie, Bergen, Norway, maintained that the nastin treatment is in no way a specific treatment, and the reactive symptoms produced by the injections of nastin in the lepers is nothing but a reaction which f[illegible]s the injection of any fatty substance from acid-fast [illegible] The same action is found in patients affected with [illegible]sis. It is necessary to be very careful with nasti[illegible]ents with a tendency to tuberculosis show[illegible]ction. He considers the nastin treatment. [illegible] forward toward the betterm[illegible] of this [illegible] of good results obtained [illegible] he met[illegible] from other treatment[illegible] the e[illegible]ho for 12 years had su[illegible] sym[illegible] th[illegible] last eight year[illegible] patient can be [illegible] actic[illegible] ment was entire[illegible]

[illegible] of [illegible]

Dr. J. M. H. [illegible] Lond[illegible] of the last 12 [illegible] more bacillus of Han[illegible] pecific special stai[illegible] is [illegible] young, old and [illegible] th[illegible] methods it has [illegible] t t[illegible] found in the t[illegible] Th[illegible] arrangement [illegible] his [illegible] that the lepra [illegible] the [illegible] No medium has [illegible] be cultivated, [illegible] oof as saprophytes on decayed organic matter, decayed fish, etc. No lower animals have been found susceptible to leprosy. The presence of bacilli in gnats and bed-bugs suspected of disseminating the disease is still doubtful. The way of entrance of the bacilli into the organism is still obscure; it may be by the nasal mucosa and the upper respiratory tract, or the infection may be from the alimentary tract, or through the genitals; perhaps through the skin.

So far there is no clear idea concerning the relation of maculo-anesthetic and nodular leprosy. May it be due to the quantity of bacilli which cause nodular leprosy, due probably to racial peculiarity, climatic condition and absence of hereditary or acquired immunity. It may also be due to a qualitative difference in the virulence of the bacilli. The pathologic lesions produced in the tissues by the direct or indirect action of the bacilli are the production of the infective granuloma. In the beginning, the bacilli are outside of the cells, but later many gain entrance and multiply therein. Obscurity still surrounds the cells which may be connective-tissue cells or plasma cells containing bacilli, or may be clusters of bacilli around a nucleus or a lymphocyte, or may be masses of bacilli accumulated in lympatic spaces. In skin lesions, the bacilli are found in the corium, but may be present in the epidermis and in the surface of the skin. Not yet clear is the manner in which the bacilli reach the surface, it is possible that they pass through the interepithelial lymphatics, or by the sweat or through the epithelial cells, and from without being deposited by the nasal discharge or by the sputum. Not much has been added to the knowledge of visceral leprosy. In the spleen true leprous infiltration occurs, and also in the lungs, where caseation and necrosis are often found. Bacilli have been found in the glomeruli of the kidneys, in the epithelium of the uriniferous canals, but not in the urine. The genitals, ovaries and testicles have been found extensively affected with leprosy, but yet the bacilli have never been found in the Graffian follicles, in the seminiferous tubules, or in the semen. Bacilli have been found in the blood, but as it has been taken from the lepromata it may be that bacilli were taken from the lymph. The blood shows all characteristics of anemia with a slight eosinophilia.

Leprosy of the eye is a late manifestation of nodular leprosy, only rarely primary. It is possible that the infection takes place in consequence of the general infection as the chorioid is the chief site of the disease and the cornea is involved after the deeper parts. It is also possible that the infection takes place from without, the conjunction being infected first, then the cornea, corneosclerotic limbus, ciliary body and finally the uveal tract. Diversity of opinion is found in reference to the pathogenesis of maculo-anesthetic leprosy. It has not yet been decided whether the maculo-anesthetic lesions are identical with those of the nodules, and have to be considered as an early stage of the skin lesion, or whether they are to be considered as a form of inflammatory process of the type of erythema persistans. Peripheral nerves may be affected in all forms of leprosy, but more markedly in the maculo-anesthetic type. The presence of the bacilli and of their toxins leads to neuritis and interstitial proliferative alterations, which by pressure on the vital nerve tissue cause degeneration of the axis cylinder. It seems that the neuritis so produced causes eventual destruction of the bacilli and consequently leprosy of the nerves is self-curative. It is doubtful if the spinal cord and the ganglia are affected by the bacilli, and it is also possible that the changes which take place in the posterior columns of the cord are not due to the bacillus *in situ*. These changes are not characteristic, and resemble the changes following the ascending degeneration of a peripheral nerve from injury or as the results of general cachexia. The possibility of the association of leprosy with other diseases as tuberculosis, syphilis, etc., must not be forgotten, and the ravages of these associated diseases must not be attributed to leprosy.

Blood Reactions in Lepers

Dr. Babes, Bucharest, spoke on the reactions of the blood in the lepers: it seems that there is nothing specific to give much light on the subject.

Dr. George Meyer, Berlin, maintained that the lepra serum gives the same reaction as the serum in syphilis, only in cases of the tuberculous type.

Bone and Joint Changes in Leprosy

Professor Harbitz, Christiania, Norway, spoke on the leprous alteration of the bones and joints from trophoneurotic causes. The hands and the feet, especially at the tarsal and carpal joints, often show joint affections, which greatly resemble arthritis deformans, followed at times by a true atrophy of the bones. These conditions have to be referred to leprous neuritis.

Presentation of Pathologic Specimens

Interesting demonstrations were given at the closing of the session. Specimens of the bacilli of leprosy in the tissues were exhibited from the laboratory of Unna, at Hamburg. Dr. Arning exhibited several specimens of leprous pathologic alteration in the nerves. It seems that the Gram method with diluted stain and continued for from 24 to 48 hours has given the best results in finding the bacilli. Dr. Goodhue, of Hawaii, exhibited lantern slides showing the pathologic alterations of the bones in leprosy.

Prophylaxis of Leprosy

Dr. Holmbae, Christiania, Norway, spoke on the fight against leprosy in a general way.

Dr. Wise, Washington, D. C., directed attention to the fact that in the countries where leprosy has disappeared or has greatly diminished there has been an elevation of the standard of living among the masses of the people. He emphasized the necessity of segregation of the lepers and strict laws forbidding immigration of leprous subjects, in order to prevent the establishment of new foci of the disease.

The following resolutions were proposed and, with the exception of No. 5, were unanimously adopted:

1. The Second International Scientific Conference on Leprosy confirms in every respect the resolutions adopted by the First International Conference, at Berlin, in 1897. Leprosy is a disease which is contagious from person to person, whatever may be the method by which this contagion is effected. Every country,in whatever latitude it is situated, is within the range of possible infection by leprosy, and may, therefore, usefully undertake measures to protect itself.
2. In view of the success obtained in Germany, Iceland, Norway and Sweden, it is desirable that these countries should isolate lepers, placing them under such conditions of life as can be voluntarily accepted by them.
3. It is desirable that the children of lepers should be separated from their parents as soon as possible, and that they should remain under observation.
4. An examination should be made from time to time of those having lived with lepers by a physician having special knowledge.
5. All theories on the etiology and the mode of propagation of leprosy should be carefully examined to ascertain if they accord with our knowledge of the nature and the biology of the bacillus of leprosy. It is desirable that the question of transmissibility of leprosy by blood-sucking insects, bugs, fleas, etc., should be elucidated and that the possibility of leproid disease among animals (rats) should receive early study.
6. The clinical study of leprosy induces the belief that it is not incurable. We do not at present possess a certain cure. It is desirable, therefore, to continue the search for a specific remedy with the greatest zeal.

The Next Conference

Professor Kobler, in the name of the Austrian Government, invited the conference to meet in Bosnia. The invitation was accepted, but the place was not decided. It has been left to the international committee to decide the time of the conference, which they must call three years before. In the same way the place has to be left to the choice of the same committee.

Hospitals for Lepers

It is of interest to report briefly visits to the leprosy hospitals.

In Bergen at present are two lepers' hospitals, both only for the nursing and for isolation of the lepers. Leprosy was formerly very wide-spread in Norway. This was only understood after the investigations of Dr. Danielssen in the forties. One hospital taken into use in 1857, was built and maintained by the state. In 1861 the state opened two new hospitals, one in Molde and one in Trondhjem. All expenses of nursing were paid by the state, and as most of the lepers are poor, the hospitals were soon filled; in 1860 and subsequent years between 700 and 800 lepers were housed in these hospitals.

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Dr. Moreina, of Rio de Janeiro, called attention to the psychoses of the lepers. He believes that in lepers there is no peculiar kind of insanity. Only the polyneuritic leprosy can be accompanied by the whole syndrome of Korsakow. At the onset of the disease not often can be found any kind of mental alienations. In many cases complications of leprosy, as tuberculosis, streptococcus infections, or arteriosclerosis may be cause of mental trouble in the lepers. The ordinary mental condition of the patients affected with leprosy is different and is greatly influenced by the duration of the disease, by the age, by education and the clinical forms of the disease.

Mental Disturbances in Leprosy

Professor de Beurmann, Paris, discussed the mental troubles in leprosy and the psychism of the lepers. He called attention to the mental condition of the lepers in the extreme East, which is far different from that of the Europeans. The Hindoos, the Malays and the Mongolians, although blind, mutilated and in the most terrible general condition, never show signs of mental trouble. In Asiatic asylums have been found lepers jovial and satisfied with their condition. In consequence, the sadness and the despondency of the European lepers is more due to their education and to the consciousness of having a disease of hopeless prognosis.

Treatment

The meeting on Wednesday, August 18, was devoted entirely to therapy. Dr. von Deycke, of Hamburg, discussed nastin injections. Nastin is obtained as a neutral grease from the culture of a kind of streptothrix and it seems to be identical with the neutral fat obtained from the tubercle bacillus. This so-called streptothrix has been called *streptothrix leproides*, but has no other relation to the true leprosy bacillus than to contain a kind of nastin fat. The pure nastin has the ability to produce in some of the lepers more or less reaction of general or of local nature. The reaction is subject to the greatest oscillation. While some patients are absolutely refractory to its action, others show symptoms of so severe a nature as to jeopardize life. For these reasons nastin alone cannot be used in the treatment of leprosy. When nastin is mixed with such substances which *in vitro* remove the grease from acid-fast bacilli, like tubercle bacilli, then we obtain a preparation, which can be used as therapeutic means. One preparation is nastin-B., which is nastin combined with benzoyl chlorid in an oily solution. According to the degree of concentration, nastin-B. does not usually produce a very intense reaction, and can be obtained in a form which will not cause any reaction at all. Although nastin-B. is therapeutically much more sure and constant in its action than pure nastin, yet in individual cases it shows different action. Nastin-B. acts directly on the specific cause of leprosy in the sense of bacteriolysis, as it prepares the bacilli, by removing their fat, to be susceptible to bacteriolysis. In a large percentage of lepers treated with nastin-B. improvement has followed in the general feeling. Moreover, it seems that it has prevented the farther progress of the leprous process. The nastin treatment has to be continued for one year, in form of an intermittent therapy just as it is used in syphilis.

Treatment of Ophthalmic Diseases in Lepers

Dr. Lyder Barthen, Trondhjem, Norway, spoke first on treatment of non-leprous diseases in leprous eyes, then on the genuine leprous diseases of the eyes, finally the last stages of the leprous eye diseases and their treatment.

Nastin Treatment in Russia

Dr. E. Kiwull, Wenden, Livonia, Russia, spoke on his experience with nastin treatment in the leprosarium of Wenden. He had used only nastin-B. The injections although painful were well-borne. After the injection only an increase in the temperature occurred. In the symptoms during the treatment some better and some worse could be found. Frequently ulceration occurred of old infiltrations in tubercules and in scars. In several cases swelling and pains occurred in the ulnar nerve and its ramifications. It was often remarked that hard tubercles imbedded in the depth of the skin disappeared under its action leaving only a slight pigmentation. Ulcerations of the hard palate become much more flat and showed a tendency to heal up. Examination of the blood showed that nastin increased the number of leucocytes.

Nastin Treatment in Australia

Dr. J. Ashburton Thompson, Sidney, is greatly opposed to the use of nastin. He employed the injections in 5 selected cases: 4 of tuberculous leprosy and 1 of pure leprosy of the nerves. He continued the treatment for from 6 to 9 months. In 3 of the patients the disease remained as it was. In the nervous case, the pains increased. A child became much worse. He claims that nastin is an inert substance with some irritant and also caustic effects on the seat of injection. In none of the patients did the injection produce any local reaction, or any fever.

Treatment of Leprosy

Dr. H. P. Lie, Bergen, Norway, maintained that the nastin treatment is in no way a specific treatment, and the reactive symptoms produced by the injections of nastin in the lepers is nothing but a reaction which follows the injection of any fatty substance from acid-fast bacilli. The same action is found in patients affected with tuberculosis. It is necessary to be very careful with nastin, which in patients with a tendency to tuberculosis shows a detrimental action. He considers the nastin treatment, however, as a step forward toward the betterment of this disease. He spoke of good results obtained with the method of Unna, and also from other treatments, but at the end showed a patient who for 12 years had suffered severe symptoms of leprosy and for the last eight years has shown no symptoms whatever. The patient can be considered practically well, and yet the treatment was entirely expectant.

Present Knowledge of the Lepra Bacillus

Dr. J. M. H. Macleod, London, England: The researches of the last 12 years have more firmly established the lepra bacillus of Hansen as the specific cause of this disease. By special staining methods, it is possible to distinguish the young, old and dead bacilli and the contained fat. By these methods it has been shown that the majority of the bacilli found in the tissues are dead. The finding of a cladothrix arrangement and branching forms like actinomyces, suggest that the lepra bacilli belong to the class of the streptotrix. No medium has so far been found on which lepra bacilli can be cultivated, nor is there any proof that the bacilli can live as saprophytes on decayed organic matter, decayed fish, etc. No lower animals have been found susceptible to leprosy. The presence of bacilli in gnats and bed-bugs suspected of disseminating the disease is still doubtful. The way of entrance of the bacilli into the organism is still obscure; it may be by the nasal mucosa and the upper respiratory tract, or the infection may be from the alimentary tract, or through the genitals; perhaps through the skin.

So far there is no clear idea concerning the relation of maculo-anesthetic and nodular leprosy. May it be due to the quantity of bacilli which cause nodular leprosy, due probably to racial peculiarity, climatic condition and absence of hereditary or acquired immunity. It may also be due to a qualitative difference in the virulence of the bacilli. The pathologic lesions produced in the tissues by the direct or indirect action of the bacilli are the production of the infective granuloma. In the beginning, the bacilli are outside of the cells, but later many gain entrance and multiply therein. Obscurity still surrounds the cells which may be connective-tissue cells or plasma cells containing bacilli, or may be clusters of *bacilli around a nucleus or a lymphocyte*, or may be masses of bacilli accumulated in lympatic spaces. In skin lesions, the bacilli are found in the corium, but may be present in the epidermis and in the surface of the skin. Not yet clear is the manner in which the bacilli reach the surface, it is possible that they pass through the interepithelial lymphatics, or by the sweat or through the epithelial cells, and from without being deposited by the nasal discharge or by the sputum. Not much has been added to the knowledge of visceral leprosy. In the spleen true leprous infiltration occurs, and also in the lungs, where caseation and necrosis are often found. Bacilli have been found in the glomeruli of the kidneys, in the epithelium of the uriniferous canals, but not in the urine. The genitals, ovaries and testicles have been found extensively affected with leprosy, but yet the bacilli have never been found in the Graffian follicles, in the seminiferous tubules, or in the semen. Bacilli have been found in the blood, but as it has been taken from the lepromata it may be that bacilli were taken from the lymph. The blood shows all characteristics of anemia with a slight eosinophilia.

Leprosy of the eye is a late manifestation of nodular leprosy, only rarely primary. It is possible that the infection takes place in consequence of the general infection as the chorioid is the chief site of the disease and the cornea is involved after the deeper parts. It is also possible that the infection takes place from without, the conjunction being infected first, then the cornea, corneosclerotic limbus, ciliary body and finally the uveal tract. Diversity of opinion is found in reference to the pathogenesis of maculo-anesthetic leprosy. It has not yet been decided whether the maculo-anesthetic lesions are identical with those of the nodules, and have to be considered as an early stage of the skin lesion, or whether they are to be considered as a form of inflammatory process of the type of erythema persistans. Peripheral nerves may be affected in all forms of leprosy, but more markedly in the maculo-anesthetic type. The presence of the bacilli and of their toxins leads to neuritis and interstitial proliferative alterations, which by pressure on the vital nerve tissue cause degeneration of the axis cylinder. It seems that the neuritis so produced causes eventual destruction of the bacilli and consequently leprosy of the nerves is self-curative. It is doubtful if the spinal cord and the ganglia are affected by the bacilli, and it is also possible that the changes which take place in the posterior columns of the cord are not due to the bacillus *in situ*. These changes are not characteristic, and resemble the changes following the ascending degeneration of a peripheral nerve from injury or as the results of general cachexia. The possibility of the association of leprosy with other diseases as tuberculosis, syphilis, etc., must not be forgotten, and the ravages of these associated diseases must not be attributed to leprosy.

Blood Reactions in Lepers

Dr. Babes, Bucharest, spoke on the reactions of the blood in the lepers; it seems that there is nothing specific to give much light on the subject.

Dr. George Meyer, Berlin, maintained that the lepra serum gives the same reaction as the serum in syphilis, only in cases of the tuberculous type.

Bone and Joint Changes in Leprosy

Professor Harbitz, Christiania, Norway, spoke on the leprous alteration of the bones and joints from trophoneurotic causes. The hands and the feet, especially at the tarsal and carpal joints, often show joint affections, which greatly resemble arthritis deformans, followed at times by a true atrophy of the bones. These conditions have to be referred to leprous neuritis.

Presentation of Pathologic Specimens

Interesting demonstrations were given at the closing of the session. Specimens of the bacilli of leprosy in the tissues were exhibited from the laboratory of Unna, at Hamburg. Dr. Arning exhibited several specimens of leprous pathologic alteration in the nerves. It seems that the Gram method with diluted stain and continued for from 24 to 48 hours has given the best results in finding the bacilli. Dr. Goodhue, of Hawaii, exhibited lantern slides showing the pathologic alterations of the bones in leprosy.

Prophylaxis of Leprosy

Dr. Holmbae, Christiania, Norway, spoke on the fight against leprosy in a general way.

Dr. Wise, Washington, D. C., directed attention to the fact that in the countries where leprosy has disappeared or has greatly diminished there has been an elevation of the standard of living among the masses of the people. He emphasized the necessity of segregation of the lepers and strict laws forbidding immigration of leprous subjects, in order to prevent the establishment of new foci of the disease.

The following resolutions were proposed and, with the exception of No. 5, were unanimously adopted:

1. The Second International Scientific Conference on Leprosy confirms in every respect the resolutions adopted by the First International Conference, at Berlin, in 1897. Leprosy is a disease which is contagious from person to person, whatever may be the method by which this contagion is effected. Every country, in whatever latitude it is situated, is within the range of possible infection by leprosy, and may, therefore, usefully undertake measures to protect itself.

2. In view of the success obtained in Germany, Iceland, Norway and Sweden, it is desirable that these countries should isolate lepers, placing them under such conditions of life as can be voluntarily accepted by them

3. It is desirable that the children of lepers should be separated from their parents as soon as possible, and that they should remain under observation.

4. An examination should be made from time to time of those having lived with *lepers by a physician having special knowledge.*

5. All theories on the etiology and the mode of propagation of leprosy should be carefully examined to ascertain if they accord with our knowledge of the nature and the biology of the bacillus of leprosy. It is desirable that the question of transmissibility of leprosy by blood-sucking insects, bugs, fleas, etc., should be elucidated and that the possibility of leproid disease among animals (rats) should receive early study.

6. The clinical study of leprosy induces the belief that it is not incurable. We do not at present possess a certain cure. It is desirable, therefore, to continue the search for a specific remedy with the greatest zeal

The Next Conference

Professor Kobler, in the name of the Austrian Government, invited the conference to meet in Bosnia. The invitation was accepted, but the place was not decided. It has been left to the international committee to decide the time of the conference, which they must call three years before. In the same way the place has to be left to the choice of the same committee.

Hospitals for Lepers

It is of interest to report briefly visits to the leprosy hospitals.

In Bergen at present are two lepers' hospitals, both only for the nursing and for isolation of the lepers. Leprosy was formerly very wide-spread in Norway. This was only understood after the investigations of Dr. Danielssen in the forties. One hospital taken into use in 1857, was built and maintained by the state. In 1861 the state opened two new hospitals, one in Molde and one in Trondhjem. All expenses of nursing were paid by the state, and as most of the lepers are poor, the hospitals were soon filled; in 1860 and subsequent years between 700 and 800 lepers were housed in these hospitals.

The results of these measures were very beneficial and while in 1865 there were 2,870 lepers in Norway, there are now only about 400.

There is no more need for so many hospitals, therefore, the one at Molde has been converted into a tuberculosis hospital. In St. Joergen's hospital in Bergen there are at present 29 patients; no new patients are admitted, so that when those now living there die, the hospital will be abolished. St. Joergen's had its own property, acquired in earlier ages by the levying of a tax on every farm in the province of N. Bergenhus.

In the other hospital at Bergen are housed at present 84 patients. They are visited daily by Dr. Lie and Dr. Rückner, who give them the most scientific and the most charitable treatment. There are usually four patients in each room. The rooms are spacious and well aired. All forms of the disease can be seen. Most of the patients have suffered contraction of the fingers with that resulting characteristic deformity of the hand. Many have their fingers, hands and feet badly mutilated. In many cases lesions of the feet, knees, and nose, have caused extended and deep ulcerations, which are daily washed with boracic-acid solution and dressed with iodoform gauze. In many patients the eyes have been destroyed; and in a great many the nose has been entirely destroyed. In some the mouth has been reduced to a small deformed hole, which scarcely permits the introduction of food. In many cases the tongue showed lepra tubercles, mostly at its edges. Nearly every patient has leucoderma of the arms and of the legs in form of deep whitish spots, surrounded by deeply pigmented edges.

In one case of lepra tuberosa in a man, the face was so full of tubercles that his features had entirely disappeared. In a woman with a form of lepra maculosa, deeply red erythematous spots covered the neck, chest, shoulders, arms and legs. The spots were somewhat raised at the edges, brilliant, glossy and somewhat hard. Some of her fingers were somewhat swollen, but the hands were not yet contracted. Many patients were suffering with muscular and arthritic pains, and neuralgic pains.

In the men's department there is a large room where the patients work as cabinet makers. In the women's department those who can work are spinning, knitting, etc. In this way the patients may earn a little money, which they are allowed to keep.

It might be thought that the articles manufactured in the hospital would have been of danger to other people, but during all the years the hospital has existed and the people in town have bought articles made there, not a single instance is known of leprosy having spread from the hospital, not even in the years when it was not thought that the disease was infectious and, therefore, no cleansing of the articles made in the hospital was done, as it is practised at present. No one is allowed in the hospital except medical men.

Conditions in the United States

It may be of some interest to refer to conditions in the United States. The statistical dates are taken from Dr. H. P. Lie's paper. The official statistics of the commission of United States Public Health and Marine-Hospital Service gave the number of lepers in 1902 as 278, 145 of which were born in the United States. Foreign born individuals affected with leprosy in the United States are represented as follows:

Norwegians	22	From the Antilles	4
Icelanders	11	Mexicans	3
Swedish	8	Irish	6
Chinese	20	English	3
Japanese	1	French	3
Germans	12	Italians	4
Bohemians	12	Spaniards	1
Cubans	6	Australians	3

Of this number only 72 lepers are segregated. The forms of leprosy in the United States can be divided as follows: Anesthetic, 107; tuberculous, 88; mixed, 56. In California, San Francisco has 18 cases of leprosy. Of the 24 cases reported in this state, 11 patients are Chinese, but 7 of them have acquired the disease in the United States. The 11 Icelanders are settled in North Dakota and it seems that all contracted the disease in Iceland. Minnesota is the preferred state for the Scandinavians, of which 4 from Sweden and 16 from Norway affected with leprosy have established their home. Armauer Hansen in 1900 remarked that 287 lepers had left Norway and that 170 had emigrated to the United States. But only in 30 had the disease showed manifest signs before they left their native country. Bracken has found in Minnesota, 5 Swedes and 6 Norwegians affected with the leprosy. He believes that in the United States there are 160 lepers of Scandinavian origin scattered in Minnesota, Wisconsin, Iowa and South and North Dakota.

Twenty-four lepers are reported to be in Florida, of which 12 are Bohemians, 6 are Cubans and 5 are Americans.

Isadore Dyer, who is so interestingly connected with the history of this disease in the United States, maintains that leprosy was introduced in Louisiana from the Antilles about 1776. The leprosarium of Indian Camp has received since 1894, 80 lepers, of which 38 are still living, 37 are dead and 5 ran away from the asylum.

Morrow in 1899 and James N. Hyde in 1894, have tried to determine the number of lepers in the United States. It can be stated that lepers in the States of the Union can be at present considered as 278. The danger is mostly in the immigration.

The disease is too horrible for the government to wait before taking any prophylactic step. The disease is obscure and treacherous, and the lepers try to conceal it. Physicians who have had no special training in this disease are frequently unable to recognize leprosy. Leprosy must be considered contagious and as such reported to the health officer of the state. The reported leper should be examined by a specialist, and when the disease is definitely diagnosed should be segregated in a government colony.

MEDICAL SOCIETY OF THE MISSOURI VALLEY

Twenty-second Annual Meeting, held at Council Bluffs, Iowa, Sept. 9-10, 1909

(Concluded from page 1049)

Unrecognized Gall-Stone Disease

DR. DANIEL MORTON, St. Joseph, Mo.: In this paper I discuss neuralgia of the stomach, biliousness, autointoxication, nervous symptoms, pain in the gall-bladder, referred pain, vomiting, colic, tumor, jaundice, gall-stones and cancer of the gall-bladder. Let us not be deceived with the belief that gall-stones represent the final stage of gall-stone disease. It is now conceded and statistics prove that the frequent concurrence of gall-stones and malignant disease is not accidental, but that the former by their irritation produce the latter. I mention this fact in order that I may emphasize the necessity for early recognition of gall-stone disease. Courvoisier found 72 cases with gall-stones in 84 cases of primary gall-bladder cancer. Possibly, the inaugural symptoms of gall-stone disease may be best brought to the attention of general practitioners by stating that cases of "indigestion," "biliousness," "neuralgia of the stomach," "gastralgia" and "autointoxication" are, in the majority of cases, in reality, cholecystitis, and should be recognized and treated as such. The diagnosis can usually be confirmed by a physical examination of the gall-bladder and a search for the pressure pain points described. The symptoms which heretofore have been considered inaugural, for instance, stone colic and jaundice, are really terminal and are found only after the disease has been long existent and indicate a late stage of the disease.

Our knowledge of cholecystitis is increasing rapidly not only as a pathologic condition affecting the gall-bladder alone, but also affecting the liver itself and the pancreas. We are also discovering that the stomach is a much maligned organ and that it has heretofore been charged with offenses of which it was guiltless and for which its nearby neighbor, the gall-bladder, has been proved responsible. In a word the gall-bladder as an important factor in the causation of trouble in the organs adjacent is assuming a rapidly increasing important rôle. In the beginning of gall-bladder surgery attention was directed to the organ itself and it was made the objective point of all surgical measures. But it was found that with the relief of the pathologic condition in the gall-bladder not only was the original purpose, for which the operation was done accomplished, but in addition, over and above this, symptoms disappeared which had formerly been attributed to other organs. Putting operative findings and clinical together, therefore, a number of obscure abdominal disturbances are coming out of the darkness of ignorance into the light of scientific knowledge.

DISCUSSION

Dr. John Monroe Bannister, Omaha: I would like to relate my experience in the Philippine's, in reference to this line of work. Conditions of extreme congestion of the liver and enlargement are not found in the United States as they are in the tropics; consequently a diagnosis of enlarged gall-bladder is easy. While in the Philippines, I did a large amount of surgical work. There were many cases of liver disease to treat, and in the number of patients operated on there was not a single case of disease of the gall-bladder. Frequently disease of the gall-bladder was suspected, but in these cases the livers would be so enlarged from passive or active congestion as to fill the abdominal cavity. It was a rule in suspicious cases to perform laparotomy as a routine measure, going in, getting the enlarged liver out of the way, exploring and examining the gall-bladder to see if there was anything the matter with it. It was found that the livers of these patients were very much congested and enlarged. It was also a rule to aspirate the liver and if an abscess was not found a good deal of blood was drawn off; but these patients invariably did well.

Dr. A. I. McKinnon, Lincoln, Neb.: It is possible to have biliary or gall-stone colic without the presence of gall-stones. Gall-stones are due ordinarily to infection. Cholecystitis frequently accompanies infectious diseases, and many times the trouble begins in childhood, following some infectious disease. When there is an acute cholecystitis, for instance, complicated with pneumonia, there is jaundice, and as the growth of fibrous tissue replaces the exudate, contraction takes place, and obstruction to the bile tracts occurs.

Dr. A. B. Somers, Omaha: The removal of the gall-stones does not always relieve or cure the primary condition which still exists, and the patient should be taught to go to a physician when he gets through with the surgeon, unless the surgeon is also a physician.

Dr. W. F. Milroy, Omaha: I want to go one step further than the last speaker, and say that these patients should go to see a physician before consulting a surgeon, as I am firmly convinced that most of these individuals can be cured by medical treatment and require no operation whatever.

Surgical Suggestions for the Treatment of Chronic Appendicitis

Dr. A. I. McKinnon, Lincoln, Nebr.: In this paper I recommend that the incision be made high enough for examination of the upper abdomen and treatment of those parts which may be found involved. This incision can be made about the same as a gall-bladder incision, the lower end being even with the umbilicus, or at a point where most authorized incisions begin. Through such an opening, the appendix can be easily pulled up and with the aid of a proper position of the patient the whole abdomen and pelvis will be open for examination. For further faciliating this exploration, I advocate the sitting posture of the patient. This not only allows complete exploration, but permits it to be done through a small incision. I have used this posture for several years with great success in handling the abdominal viscera. Chronic appendicitis often either complicates or is complicated by a pathologic condition of the upper abdomen, which, if overlooked, will lead to continued trouble on the part of both patient and surgeon.

Scientific Feeding

Dr. Minda A. McLintock, Atchison, Kans.: Man is said to be the net product of what he eats and drinks. Food bears the same relation to him that soil does to vegetation. No man can be at his best physically who is underfed. A celebrated chemist says: "If we could ascertain perfectly the demands of the human body and supply perfectly those demands, life might be prolonged indefinitely." He enjoys the best health, the keenest mentality, the high physical powers, who can select for himself those articles of diet that will most nearly supply all the constituent parts of the body in natural proportions. To do this: First, food must contain all the nutritive elements the body requires. Second, only such foods must be combined at each meal as will produce chemical harmony in the stomach. Third, food must be proportioned so that the body will not be overfed with certain elements of nutrition and underfed with others. No less important is the observance of natural laws or idiosyncrasies, namely, age, sex, temperament, environment, together with the season of the year, occupation, exercise, etc.

The Bacteriologic Diagnosis of Epidemic Cerebrospinal Meningitis

Dr. S. R. Hopkins, Omaha: I wish to present a brief and practical method of establishing a bacteriologic diagnosis in this affection. A Gram-negative diplococcus occurs most often in the interior of the leucocytes of the spinal fluid. There are six species of Gram-negative diplococci with which it is possible to confuse the diplococcus of Weichselbaum, and chief among these are the diplococcus of gonorrhea and the so-called pseudomeningococcus. For practical purposes, however, the identification of the meningococcus in the spinal fluid withdrawn by lumbar puncture from a patient presenting phenomena suggesting meningitis, is a procedure fraught with little difficulty, and it is the only means of affirming a positive diagnosis. In staining by the method of Gram it is well to finish the staining process by flooding the slide with a 0.25 per cent. solution of eosin in water, thus giving to the Gram-negative bacteria a red color. In order to establish a certain bacteriologic diagnosis one should in every instance resort to cultivation of the germs on artificial media, and in this connection I wish to state that I have never encountered the slightest difficulty in obtaining a luxuriant growth of the meningococcus, by simply inoculating a slant of plain agar or blood serum, with the infected spinal fluid, and this, in from eighteen to twenty-four hours. In inoculating the artificial culture media, it is necessary that the inoculation be made very soon after the withdrawal of the fluid, as the germs are short-lived outside of the body and show little resistance to drying. The growth on blood serum is more abundant than on agar and it does not liquefy it. The growth appears as white, glistening spots which rapidly coalesce. The organisms do not live long on the media, and if one would keep a culture for any time it is necessary to reinoculate other tubes at least every forty-eight hours.

Advantage of Cholecystostomy in Draining the Deeper Biliary Tracts

Dr. H. G. Welpton, Des Moines, Iowa: This paper was suggested by a serious and unexpected complication that attended two cases of cholecystectomy in my practice. The cases were of the simple type, without adhesions, obstruction, or destructive changes. The gall-bladder was removed with much the same assurance of a cure as we have when we remove an infected appendix. In one of the cases a large calculus formed with the hepatic duct above an acute angulation of the common duct. The angulation was due to an adhesion to the colon. In the other an acute exacerbation of a chronic pancreatitis came on at intervals obstructing the common duct. My patients were only partially relieved by removing the stone, by releasing the adhesions, and by drainage. Since reviewing the literature, I have limited cholecystectomy to those cases in which either the gall-bladder or cystic duct has been contracted or obstructed, or in which an irreparable damage from gangrene, infection, ulceration perforation or malignancy has occurred. I prefer to leave the gall-bladder, when possible, since excision does not remove the infection that is in the common and biliary ducts. I believe from my clinical, pathologic and bacteriologic findings that the common and biliary ducts partake of the infection of the gall-bladder in every case to a greater or less degree. Gall-bladder drainage offers the best means of a complete cure of the infections of the deeper tracts as well as those of liver and pancreas. It also provides for a cholecystenterostomy in case of complete obstruction, and serves as a guide to the deeper structures. In cases in which later calculi reform, or partial obstruction develops, cholecystenterostomy will prove a happy solution of these complications.

Diagnosis and Treatment of Stricture

Dr. A. C. Stokes, Omaha: In this paper I summarize the treatment of stricture of the urethra as follows: 1. Alkalies, diluents, and rest are serviceable in most cases of strictures—sometimes indispensable if there be any serious complications. 2. All uncomplicated strictures, not highly irritable or resilient, should be treated by dilatation with soft instruments up to No. 15 French, and with conical steel sounds afterward; reintroductions being made every third or fourth day. 3. Until well acquainted with the temper of a given stricture, every sounding should be preceded by hexamethyelenamin, followed by nitrate of silver. 4. Dilatation need rarely be carried beyond the caliber of the normal meatus. 5. Any stricture resisting dilatation must be cut. 6. For the pendulous urethra do internal urethrotomy; for the perineal urethra do external urethrotomy or the combined operation. 7. In general, anterior stricture of the urethra is curable; deep stricture of the urethra incurable. 8. Impassable strictures without retention may usually be overcome with whalebone bougies by time, patience and skill. If they finally proved impassable, the treatment is external perineal urethrotomy. 9. Retention is treated by hot baths, ether, opium, tincture of the sequichlorid of iron; failing these, by aspiration, or by external urethrotomy without a guide. 10. Traumatic stricture may be prevented by section at the time of injury. Once having shown itself, it usually requires excision for a cure. 11. Resilient and nodular strictures are best treated by excision. 12. Irritable strictures may often be cured without cutting.

Does the Present Conservatism in Pelvic Surgery Serve the Best Interest of the Patient?

Dr. Bernard A. McDermott, Omaha: Summing up the literature I find that it gives widely divergent views as to the relative value of conservatism in pelvic surgery. But whether we advocate conservatism or radicalism in pelvic operations our object should be the same—namely, the relief of existing conditions. If in this we fail, the operation has been a failure. My experience makes me oppose conservatism or any plastic work in certain pelvic lesions, such as a partially diseased tube or ovary. In the latter condition, the resection of a cystic or partially diseased ovary, as a routine procedure, it is to be mentioned only to be condemned, as the cutting and plastic work necessary to such an operation usually produce more postoperative pain tenderness and general symptomatology than would the original condition. I have seen this follow so many times that I am convinced that, if there is any real reason for saving the ovary other than conservatism of ovarian tissue, it is far better for the patient to remove the entire organ or leave it entire. Most operators leave one or both ovaries after hysterectomy for a non-malignant condition, stating that the menopause is much milder and the woman is better off in every way. Granted that the menopause may not be so acutely ushered in when the ovaries are left; but does not the condition last indefinitely? Is it not better for the woman to have the symptoms early? Though acute, they will be brief. Again, in uteri containing multiple fibroids, is it not better as a routine procedure to do a supravaginal hysterectomy than myomectomy?

Other Papers Read

The following papers were also read: "Cataract," by Dr. F. B. Tiffany, Kansas City, Mo.; "Dementia," by Dr. G. H. Hill, Des Moines, Iowa; "The Neglected Anus," by Dr. D. T. Quigley, North Platte, Nebr.; "Cancer of the Breast," by Dr. B. B. Davis, Omaha; "Diseases of Metabolism as a Group," by Dr. Alfred C. Croftan, Chicago; "Renal Tuberculosis," by Dr. F. Kreissl, Chicago; "The Objects of Mechanical and Surgical Treatment of Infantile Paralysis," by Dr. H. Winnett Orr, Lincoln, Nebr.

SIXTEENTH INTERNATIONAL MEDICAL CONGRESS

Held at Budapest, Aug. 29—Sept. 4, 1909

(Continued from page 1045)

Treatment of Diffuse Free Progressive Peritonitis

Dr. Arpad G. Gerster, New York: The basis of this report is formed by 609 cases of the malady, observed at Mount Sinai Hospital during about ten years. Of these, 461 were caused by the appendix (out of a total of 3,144 cases of appendicitis) and 148 were due to injuries and affections of other viscera. Difficulties surround the making of a precise diagnosis and estimation of prognosis in peritonitis. To uncertainties dependent on these difficulties in establishing a uniform and reliable nomenclature of the disease may be ascribed the small value to be placed on statistics. In accepting the diagnosis of free progressive peritonitis very strict criteria must be insisted on; and even with these statistics have only a relative value. Every patient with appendicitis and *a fortiori*, every patient with peritonitis, in whatever stage of the malady they may present themselves to the surgeon, ought to be operated on without delay, except moribund patients. The arguments by which the advice is supported, not to operate on "intermediate" cases of appendicitis on account of the high mortality, are fallacious. A tabulated *résumé* of the results of operative treatment in 461 cases of diffuse, free, progressive peritonitis, due to appendicitis, shows a steady decline of mortality from 79 per cent. in 1899 to 14 per cent. in 1908. This improvement is ascribed to the abandonment of heroic and incisive measures in cleansing of pus and in drainage of the peritoneum, which were in vogue in 1899, and the adoption of early, simple, rapid and less exhausting operative procedures, complemented by Fowler's posture and Murphy's proctoclysis. Of complications, the most common, observed in 9.3 per cent. cases, was that of secondary intraperitoneal abscess. This may be regarded as a residual manifestation of a primarily general process. Mechanical ileus, rather frequent (158 per cent.) in 1899, has become much rarer (5.4 per cent.) since the abandoning of the use of extensive gauze packings. My procedure is as follows: (1) Preliminary lavage of the stomach; (2) anesthesia by nitrous-oxid gas followed by ether; (3) rapid exposure of primary focus of infection; (4) stoppage of visceral leak by suture or tamponade; (5) gentleness and rapidity of procedure, avoidance of friction by wiping, etc.; (6) no irrigation; (7) soft rubber-tube drainage of right iliac fossa and, if necessary, of Douglas's pouch; (8) closure of external wound by three layers of suture; (9) for paralytic ileus repeated gastric lavage, low and high enemata, or systematic rectal lavage, enterotomy by stab done in intractable cases only; (10) rational administration of opiates; (11) withholding of all ingesta while vomiting is present; (12) Murphy's proctoclysis; (13) Fowler's position; (14) early incision and drainage of secondary abscesses; (15) laxatives, calomel and salts, to be given only after cessation of vomiting; and (16) tampons used for walling off necrosed areas not to be disturbed without necessity till they become detached of themselves.

Diagnosis of Laryngeal Cancer

Sir Felix Semon, London, Eng., described cases of malignant disease in which exceptional diagnostic difficulties were encountered and diagnostic mistakes made. They amounted to 13 in a total number of 246 cases of malignant disease seen in 33 years' practice, and after faithfully recording the salient features of each of them, he exhorted his younger *confrères* not to consider the early diagnosis of malignant disease of the larynx as exceedingly difficult, but to keep in mind the following unusual features present in the series of cases reported: 1. Malignant disease of the larynx, appearing first in the form of a curious tumefaction of the left vocal cord, which remained stationary for nearly two years before showing its true nature. 2. Chronic infective inflammation, simulating malignant disease of the larynx. Extravasation of blood into the right vocal cord and below it, simulating malignant disease of the larynx. 4. Laryngeal tuberculosis in which the laryngoscopic appearances left the diagnosis between malignant disease and tuberculosis quite undecided. 5. Laryngeal tuberculosis simulating malignant disease in a man aged 70 years. 6. Tuberculous tumor, simulating malignant disease, in the anterior commissure of the vocal cords. 7. Leucoma of a vocal cord, simulating malignant disease of the larynx. 8. Epithelioma of the left ventricle of Morgagni, at first mistaken for papilloma. 9. Epithelioma originating in the form of an angioma. 10. Papilloma, occupying the whole posterior part of the right vocal cord and the inner aspect of the right arytenoid cartilage in a man aged 60, mistaken for malignant disease of the larynx. 11. Epithelioma of the larynx appearing in the form of a snow-white, sharply pointed "meadow." 12. Granuloma originating in the scar due to removal of an epitheliomatous tumor of the right vocal cord. 13. Inflamed papilloma in a man, aged 60 years, closely simulating the appearance of an epithelioma of the larynx.

Adenoid Growths

Dr. Citelli, Catania, Sicily, after referring in his historical remarks to the great merit of Meyer in making known to the scientific world such a frequent and important disease, recorded briefly the normal and pathologic anatomy of the tonsil, founded also on extensive researches of his own.

In order to be able to determine with some exactness whether a tonsil is to be considered as normal or as hypertrophied—an indispensable decision for investigators undertaking the study of the tonsil—a thorough knowledge is required of the normal evolution of the tonsil in man. The tonsils are of use during early infancy as hematopoietic organs, and besides this as organs of defense against infection. In view of their position they may also serve as a means of exit for infection, and in some cases, when the defensive elements are not sufficient for their purpose, as a means of ingress. It is not probable that the tonsils belong to the so-called organs for internal secretion, but in view of certain general or secondary disturbances which are found in adenoid-bearing subjects, and which often disappear after an operation, and, more especially on account of anatomic researches I believe it probable that the hypertrophy of the tonsil alone can determine, first the functional, and then the anatomic, alterations of the pharynx and central hypophysis. The causes of this disease may be congenital or acquired; these latter, however, will only provoke the growth of adenoids in predisposed subjects. Adenoid symptoms may be divided into local symptoms, disturbances in nasal respiration and its relative consequences, disturbances in the other respiratory organs, vocal disturbances, uricular disturbances, etc., and general or secondary symptoms, alterations in the circlulation, psychic disturbances, exophthalmos, spasms of the larynx, night-terrors, nocturnal enuresis, nervous cough, etc. The treatment in the majority of cases is operation. Almost all the instruments designed (for the purpose) are good, in experienced hands. Adenoid growths, which can exert a great influence over the physical or psychological development of individuals, and hence the great utility of making such a disease and its consequences known to the public.

Present State of the Knowledge of the Prophylaxis of Dental Caries

Mr. Kenneth W. Goadby, London, England: The prevention of dental caries holds the same position with regard to stomatology that preventive medicine does to general medicine, and, as in preventive medicine, both preventive measures and treatment of the disease are essential factors. The recent developments in the appointment of qualified officers to treat dental disease in the army, navy, industrial schools, public schools, and institutions, as well as the recent development of municipal dental surgeons, are important factors in distributing knowledge. The principles laid down by stomatologists for the guidance in the prophylaxis of caries are based on a consideration of the pathology, but sometimes important questions are overlooked. In dental caries the etiology must be considered under the heading of—(a) the predisposing causes:—structure, environment, and position; (b) exciting causes:—micro-organisms and foodstuffs; and (c) contributory causes:—hygiene. In a hundred cases taken at random, 25 per cent. of the individuals had no dental caries. These were patients with suppuration of the gums and alveolar processes. The bacteria present in the mouths of all these people have been isolated and carefully tested by bacteriologic means, including fermentation of carbohydrates. It was found that in the mouths in which dental caries was not present organisms capable of fermenting lactose were less frequently present than in those in which caries was present. In mouths without caries 64 per cent. were free from lactose fermenters, while in mouths in which caries was present, or had been present and was treated, the lactose fermenters were present in 60 per cent.

Arteriosclerosis, Including Its Cardiac Form

Dr. H. Huchard, Paris: The chief points of M. Huchard's argument were the following: There exists great confusion among pathologists as to the nature and process of arteriosclerosis, so that it is impossible to give an exact and rational definition of the disorder from the pathologic side. Neither can pure experience settle the question, but the clinical evolution of arteriosclerosis affords the method of distinguishing between that disease and atheroma. Atheroma is really a senile affection, coming on in persons of from 60 to 80 years of age, and it is entirely a vascular change. Arteriosclerosis, on the other hand, attacks persons between 30 and 60 years of age and is so largely a visceral complaint that its best name is arteriovisceral sclerosis. Gull's and Sutton's conception of an "arteriocapillary fibrosis" is incomplete. There are some arterioscleroses at their outset typically aortic and which may be called myovalvular. From the triple view-point of the pathologist, the clinician, and the therapist the distinction between such endocardial valvular "cardiopathies" and the endarterial "cardiopathies" are of considerable importance. The six principal causes of the latter condition are gout and "uricemia," lead poisoning, syphilis, faulty diet, tobacco, mental strain, and overwork. There are four stages recognized clinically in the evolution of arteriosclerosis: (1) arterial presclerosis; (2) the cardioarterial stage; (3) the mitro-arterial stage; and (4) the final stage of cardiac failure. The symptoms fall under the three heads, toxic (the predominant group), cardioarterial, and renal, and each requires a special line of treatment. The beginning, the course, and the climax of the arterial cardiopathies are comprised in the word intoxication, having for its chief symptom dyspnea. Careful distinction must be made between a pathologic lesion and clinical disease. Simple atheroma may remain for a long time nothing more than an anatomic change. In cardiosclerosis, on the other hand, the subjective symptoms predominate over the physical signs which may indeed be absent, as in mitral contraction of sclerotic origin. In mitral regurgitation of similar origin the patient may be considered "a mitral case" so far as his murmur goes, but he is really "an arterial or aortic case." From the outset the renal factor is of great importance in determining the retention of the toxic substances and the increase in the arterial tension. Renal insufficiency is an early and constant symptom in arterial cardiopathies even if there be no albuminuria, and this fact accounts for the importance of renal treatment to eliminate the toxins during the whole course of the disease. Clinically cardiosclerosis can take its beginnings in the kidney, the heart, or some other organ, but there is no such thing as arteriosclerosis without both arterial and renal lesions. It may happen that cardiac lesions of rheumatic origin become complicated by arteriosclerotic changes between the ages of 30 and 50 years and a fresh train of symptoms may ensue. Asthma and emphysema only lead to stoppage of the heart through the arterial lesions which occur with them, but asystole of true gastric origin is extremely rare. The therapeutic indications are different in the four stages of the disorder, but dietetic regimen with measures directed to the renal efficiency are always the basis of sound treatment. In a disease which is above all things an intoxication, the abuse of drugs, especially of the iodids and digitalis, is to be especially avoided, and also the abuse of so-called anti-sclerotic serums, high-frequency currents, and climatic and some mineral water "cures."

The Nature of Antagonism in Bacteria and Its Practical Importance

Prof. N. Pane, Naples, Italy: Among the pathogenic microbes only the bacillus of anthrax can be destroyed in the system by the antagonistic action of several bacteria—*Streptococcus erysipelatis, Staphylococcus pyogenes, Bacillus* *pyocyaneus*, pneumococcus, and *Bacillus prodigiosus*—under special conditions. The most favorable of these conditions is the subcutaneous inoculation of anthrax mixed with one of the others in suitable doses. The particular state of virulence or non-virulence of the antagonists, and the choice of the animals for experiment are of great importance. The antagonistic action of a bacillus may meet with complete success in the animal organism, even when it fails or is only partially successful when applied to infected grazing land or when tested for on nutritive substances in the laboratory. The substance or substances which act against the bacilli of anthrax in the organism belong partly to the antagonist and partly to the antibodies in the organism itself. As regards the nature of the antagonistic substances, confining ourselves to the *Bacillus pyocyaneus*, which is the most energetic and the most certain in its action, it is to be observed that the broth culture of this bacillus, killed by exposure to a temperature of 55 C. for an hour, shows in the test-tube a bactericidal action at from 35 to 37 C. by far superior than that which is shown at 15 C., and this bactericidal action weakens considerably after heating to 100 C. for an hour. If the dry remains of the broth culture be mixed with absolute ethyl alcohol a clearly demonstrable bactericidal substance is diffused into the alcohol, although it is readily separated from the alcohol by evaporation at 60 C. The practical application of the resistance of *B. pyocyaneus* to anthrax might be made in the vaccination of animals susceptible of spontaneous infection, since a considerable immunity can be conferred on animals under experiment by means of subcutaneous inoculation with the anthrax bacillus mixed with the soluble products of *B. pyocyaneus*.

A Comparative Estimate of Pharmaceutical and Physical Agents in Therapeutics

DR. C. COLOMBO, Rome, Italy, reviewed the physiologic and therapeutic action of certain chemical and physical agents on the human body in the light of recent medical literature and of his own experiences. He considered three possible requirements of a physician in search of a special remedy. He may want to produce an effect which could be obtained equally well from a physical or a chemical agent, or an effect which could only be obtained from one or other of those agents. In the first case Dr. Colombo would always choose the physical agent for the following reasons. Such an agent constitutes an external stimulus of which the nature and effect on the body is exactly known, the effect is always the same for the same stimulus with the intensity of which it is in strict proportion. On the other hand, the chemical agent does its work inside the body in contact with the cellular fluids; it follows that however well we may understand its composition and its action *in vitro*, we remain in the dark as to its effect *in corpore* and of the resulting reaction of the organism. Dr. Colombo quoted examples of each of those three groups.

Recent Progress in the Clinical Study of the Evolution of Syphilis

DR. H. HALLOPEAU, Paris, France: When the chancre manifests an intense reaction, and the morbid products formed by it are of great virulence, it is a sign of an over-activity of the treponema. The germs given off by the chancre may take different routes. (a) They may go by the lymphaticus, which transmits them with or without lymphangitis to the neighboring lymphatic glands. (b) They may go by the capillaries. (c) They may enter the neighboring tissues where they spread. These last show a higher degree of virulence than those which later come from the lymphatic glands, for the glands possess a great power of attenuating the micro-organisms. Among the ultravirulent manifestations must be put most of the secondary manifestations of the vulva, of the prepuce, and of the parts around the anus. When the lymphatics and the lymphatic glands do not transmit the micro-organisms infection can only take place by the blood stream, and then the roseola does not appear, and, therefore, it may be said that the roseola is associated with the early affection of the lymphatic glands. The generalized infection only takes place at the beginning of the secondary stage and later the lesions are spread exclusively by intrainoculation and extrainoculation. 4. In grouped syphilides, the initial lesion often shows signs of a virulence greater than that of the lesions derived from it. On the other hand, extensive cicatricial syphilides may continue to spread with increasing outbursts, so it is clear that *the resistance of the tissues can be increased or diminished.* As the disease advances in evolution it gives rise to modifications in the intensity and the modification of the treponema, and, consequently, in the nature of the toxins produced. The pathologic action of the treponema is entirely due to the soluble substances to which it gives rise. In different subjects the treponema is prone to attack certain tissues. There are also affections liable to be produced under the influence of syphilis and later progress spontaneously, and these are the so-called syphilitic deuteropathies.

Treatment of Lupus Erythematosus

SIR MALCOLM MORRIS, London, Eng.: The disease appears to be essentially a chronic inflammation of the skin, local in origin, and depending on a condition of the circulation which makes the integument prone to vasomotor disturbance. This may cause a predisposition to toxic infection, but neither the fact of such infection nor its nature has been positively demonstrated. Each case must be dealt with according to its peculiarities. The treatment should be constitutional and local. Under the former head must be included careful regulation of the diet, so that the intestine may not be loaded with materials that may form a favorable soil for infection. Anything, like coffee and tea, which causes flushing of the face, is contraindicated. Quinin is often useful. Locally, in the hyperemic stage, cooling lotions and ointments of subacetate of lead may be prescribed. Ichthyol in the form of a lotion or an ointment is among the most useful of local remedies. In chronic cases the constant application of a strong solution of ichthyol is the best remedy, but iodin liniment is also valuable. In several conditions linear scarification or light touches of the thermocautery often gives good results. In subacute cases high-frequency currents and in chronic cases the Finsen light and the *x*-rays may be used with success. These agents are particularly useful in the later stages when there is thickening of the integument.

(To be continued)

Medicolegal

Liability of Counties to Physicians for Expert or Other Witness Fees in Criminal Cases

The Supreme Court of Wisconsin says that the complaint in the case of Philler vs. Waukesha County evinced a purpose to state a cause of action against the county for the value of a physician's time and services in making examinations of the symptoms and mental condition of a defendant in a criminal trial, and in attending court to testify with respect to his sanity "as an expert witness," in the words of the complaint. Except for said quoted clause, there was no suggestion as to the character of the testimony he gave, whether it related to facts which he discovered by observation, albeit a trained and expert observation, or to an opinion, probably both.

The effect of the Wisconsin statutes is to require all persons to obey the subpœna of a court, and their compensation for such obedience is fixed at $1.50 per day, with mileage. In a civil action between private parties those fees must be paid in advance, if demanded. In a criminal case they need not be tendered or paid in advance, though doubtless a contract may in some cases be implied to pay the specified fees for the service. The duty of every witness is to attend as long as commanded, and to testify to all material facts within his knowledge. This is a duty resting on all members of the community as such to aid the courts in the administration of justice and insistence on it by the courts does not constitute such a taking of property as is forbidden by the Constitution.

This was not seriously controverted by the plaintiff's counsel in its application to what they called ordinary witnesses testifying to ordinary facts, but they contended that, when a physician is called on to give expert testimony, his services are of a different character, and can not be demanded without compensation.

The word "expert" in this connection is somewhat loose and uncertain. Much of the testimony of a so-called expert is in no wise different in character from that of any other witness. He may be called on to testify to that which he sees, hears, or otherwise discovers by the use of his senses; but those facts may be such that no one but a trained expert would discover them by such use of his senses. A skilled physician discovers facts by the use of sight, hearing, or feeling which another man might not. But this distinction is one of degree merely, and not of kind. All men differ in their ability to observe accurately and in the certainty of knowledge which they derive from such observation. An illustration of such testimony, not in the legal sense expert, and yet dependent on the peculiar knowledge and abilities of the witness, is presented in Hocking vs. Windsor Spring Co., 131 Wis., 532, where an oculist, not competent under the Wisconsin law to testify as an expert, was allowed to testify to physical injuries which doubtless could not have been seen and discovered or described by a nonprofessional.

There can be no doubt in this field that every man owes a duty to attend and testify to the material facts that he knows notwithstanding the knowledge thereof may be due either to his learning or his expert faculties. Any attempt to draw a line between the exceptionally stupid and non-observant person and others who, by greater alertness, training or skill in observation, may acquire more knowledge, is impracticable and irrational. The educated and intelligent owe the same duty of aid to the courts up to the limit of their ability as does the less competent man--the man whose services are worth $50 per day as well as he whose time is worth but $2.

The more difficult field is entered when the court approaches the question of calling on men of exceptional experience and qualifications to give their opinion as the result either of facts which they observe or from an hypothetical statement of facts. This is the real field of expert evidence. It is there that the expert can testify and the non-expert can not. But here also the expression "expert" is of very broad meaning. It includes the mechanic, whose opinion may be asked on the strength or value of a brick wall or chimney, or the farmer, with reference to quality and value of lands, crops or farm animals, as well as the man of most abstruse research and learning in the fields of chemistry and bacteriology or medicine. So here, again, no line can be drawn on principles between the men or the testimony in favor of a physician over a bricklayer.

It would seem on principle, in analogy to the previous discussion, that, if from the witness' observation or from the hypothetical facts stated to him he has consciously in mind either knowledge or an opinion, such knowledge or existent opinion is a fact as to which he may be required to testify; but, as is often the case, and in the higher branches of expert learning perhaps usually, an amount of study, experimentation, thought, and reflection may be necessary to the formation of an opinion, and the witness may often honestly answer that he has not formed such opinion. The chemist, after submitting a substance to various analyses and reactions, may yet need to study the books or make further experimentation before he can assert the presence or absence of certain elements. The physician, after exhaustive inspection and tests, is still often left in doubt, and does not venture an opinion to his patient until after long study. Such study, reflection, etc., is not the function of the ordinary witness. It is not within the command of the subpœna, and there is no reason to think that the statutes were intended to require it of any witness merely as such. If a party desires that any witness, expert or otherwise, equip himself with knowledge by research or inspection, it may employ him to do so, but such employment will be controlled by the ordinary rules of contract, express or implied.

In some of the earlier text-books and decisions it was asserted that courts could not or would not compel certain professional men to attend and testify on professional subjects for the mere ordinary witness fee, more especially on the ground that the time of such witnesses was so valuable that they ought not to be thus coerced. Most of these seem to result from a custom amongst the English courts to treat physicians and lawyers as exempt from coerced attendance on the same terms as other witnesses, a custom often criticized, but which had some justification in an early statute which provided for the tender to a witness "according to countenance or calling his reasonable charges."

The fallacy of the reason on which these earlier customs were supported has, however, been recognized and their authority repudiated in a great multitude of more recent decisions. The result of these cases is that the expert, be he mechanic, physician, engineer, or chemist, must obey the subpœna of the court, and must testify to such facts as are within his knowledge, whether these facts may have required professional learning, study, or skill to ascertain them or not. If, when placed on the witness stand, he has such knowledge, he must testify to it. They substantially all recognize, however, that the subpœna under statutes like those of Wisconsin does not compel the expert or other witness to equip himself by labor with ability to testify either to an opinion or to any other fact which might be ascertained by special services, and hence that from the mere subpœna and compulsion to testify as a witness results no implied contract on any one to pay the expert anything in excess of the statutory fees, recognizing, however, that, if he does perform work in preparation and qualification to enable him to testify at the request of any person, implied contract for reasonable compensation may arise, or an express contract will be valid.

Applying these principles to the present case, it is very obvious that no statute in Wisconsin has authorized any one to make any contract for such services at the expense of the county. The allegation of the complaint was that all services of that character were performed at the request of the attorneys for the accused, albeit with their assurance that the county would be liable therefor. Liability can not be imposed on counties or other governmental subdivisions of the state except in accordance with statute law, and no statute was referred to conferring any such authority on counsel for one accused of crime. The court is therefore unable to discover any basis on which the county of Waukesha could be held liable for any compensation to this witness other than the statutory fees, if indeed it could be made liable for those.

The right to fees from the public must be found in the statute. Nowhere in the Wisconsin statutes is there any provision for the payment of a defendant's witnesses except in Section 4062 of the Wisconsin Statutes of 1898, which permits witnesses "ordered" for the defendant by the court or judge to be paid their fees out of the county treasury in the same manner that witnesses for the state therein are paid; that is, only on a certificate of the clerk of court (Section 4060) after a prior order by court or judge. This is a necessary prerequisite to the existence of any liability of the county therefor. The complaint in this case failed to allege either any order of court or judge for the appearance and attendance of the plaintiff, and the form of procedure in presenting his claim to the county board at least impliedly negatived the issue of any certificate by the clerk of court. Without such prerequisites, no cause of action, even for the amount of the statutory fee, can be stated. The court therefore concludes that the complaint failed to state any cause of action against the county.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

September 18

1 Practical Aspects on the Surgery of the Peritoneum. W. A. N. Dorland, Philadelphia.
2 Significance of Certain Pathologic Conditions in the Fossæ of Rosenmüller. J. W. Jervey, Greenville, S. C.
3 The Influence of [illegible] atic Conditions on Metabolism. J. [illegible] D. C.
4 Anesthesia in the C[illegible] J. W. Wainwright, New York.
5 Our Medical [illegible] O. L. Mulot, Brooklyn.
6 *Clinical and [illegible] of Forty-one Consecutive Cases of [illegible] ttke, Halstead, Kan.
7 Compilation [illegible] High-Frequency Currents. W. P. W[illegible], New York.
8 Case of Hemorrhagic Renal Infarct. F. R. McCreery, New York.

6. **Diphtheria.**—A summary of the 41 cases reported by Wuttke may be made as follows: In 13 cases there was a typical pseudomembrane. The bacilli were longer than in the non-membranous, averaging 3 microns on the 24-hour cultures; the cases ran a more severe course and were frequently followed by paralyses. Twenty-eight cases never exhibited membrane at any time. The bacilli in these non-membranous cases were smaller than those in the cases with membrane, running from 1 to 3 microns, most of them being about 1.5 microns long. These cases ran a milder course throughout, responded readily and in a characteristic manner to treatment by antitoxin, none developed paralysis. It would seem that in these cases the bacilli belonging to the short variety were not so virulent as the longer forms in the cases with membrane. One case followed a peritonsillar abscess after its spontaneous rupture. Two cases followed scarlet fever, with an interval of perfect health of four and seven weeks, respectively. One case was followed by an abscess due to staphylococci and streptococci, which was treated surgically. Paralytic sequelæ were noted in 5 cases. In three of these there was a myocarditis. Antitoxin in doses of 4,000 units was administered to all patients as early as possible. In 2 advanced cases this dose was repeated twice. Recovery was complete and prompt in all cases. No local treatment was used in any case. Prophylactic doses of 1,000 units each were given to 54 individuals who had been exposed. None of these developed the disease. The only undesirable effect of the serum noted was an urticarial eruption in about 20 per cent. of all cases, but most frequently in those cases in which only 1,000 units had been administered.

Boston Medical and Surgical Journal

September 16

9 Relationship Between True and False Angina Pectoris. G. G. Sears, Boston.
10 *Spina Bifida Occulta. J. W. Sever, Boston.
11 *Cysts of the Long Bones. C. C. Simmons, Boston.
12 Fatty Infiltration of the Liver in an Infant of Three Months. C. A. Pratt, Fall River, Mass.
13 The Pediatric Society and the General Practitioner. M. Kelly, Fall River, Mass.
14 The Importance of Distinguishing Simple Round Ulcers of the Duodenum from those Ulcers which Involve the Pylorus or are Above it (concluded). E. A. Codman, Boston.

10. **Spina Bifida Occulta.**—Sever reports 11 cases, the deformity occurring in the cervical region in 4 cases, the dorsolumbar region in 1 case and lumbar region in 6 cases. Paralyses were present in 4 cases; dislocation of hip in 2 cases, and scoliosis in 2 cases. Sever says that operation is not indicated in a large number of these cases, especially when not accompanied by pain, anesthesia, hyperesthesia or complete paralysis. In a number of cases, the deformity itself cannot be corrected and one has to devote attention to the complications. Hypertrichosis is not constant, but is more frequent in the low dorsal and lumbar region. Lateral curvature may or may not exist, and if it does, it is to be treated as such. Prognosis for life is good and in the paralytic cases not a great deal can be done except to attempt to correct the deformity.

11. **Cysts of Long Bones.**—Simmons reports three cases of the rarer forms of bone tumors: (1) Bone cyst of the head of the humerus with fracture; (2) bone cyst of neck of femur, with fracture; and (3) bone cyst of shaft of femur, with spontaneous fracture. From a review of the literature and the history and findings in these three cases, Simmons draws the following conclusions:

> 1. The so-called solitary cysts of the long bones are in most cases due to the degeneration of pre-existing tumors, that is, growth and softening of a chondroma arising from a misplaced piece of epiphyseal cartilage. This theory, however, does not account for all the cases.
> 2. The tumors are essentially benign growths and may be cured by a conservative operation.
> 3. They are seen almost exclusively in children and young adults
> 4. In any case of spontaneous fracture or fracture following slight violence, a radiograph should be taken to determine the presence or absence of a bone cyst as a predisposing cause.
> 5. A positive diagnosis is impossible without a radiograph, which should be examined by a man conversant with the appearance of bone tumors.

New York Medical Journal

September 18

15 Surgery of Cirrhosis of the Liver. B. M. Ricketts, Cincinnati.
16 Treatment of Mechanical Constipation and Obstipation. S. G. Gant, New York.
17 *Determination of Casein in Cow's Milk. L. L. Van Slyke and A. W. Bosworth, Geneva, N. Y.
18 *A New Diagnostic Skin Reaction in the Acute Infections. L. K. Hirshberg, Baltimore.
19 *An Apparatus for the Chemical and Bacteriologic Examination of Gastric Contents and Feces. A. Bassler, New York.
20 *Treatment of Recurrent Hordeolum. A. Brav, Philadelphia.
21 *Mammary Fibroadenoma. A. Denenholz, New York.
22 Physiology and the Second Law of Thermodynamics. F. H. Garrison, Washington, D. C.

17. **Determination of Casein.**—The method described by Van Slyke and Bosworth is said to require only apparatus and reagents that are in common use; its operation in the determination of casein in a sample of milk requires only from 12 to 15 minutes; and the results usually come within 0.1 or 0.2 per cent. of the correct amount. With the proper equipment several samples can be run simultaneously with much economy of time. A given amount of milk, diluted with water, is made neutral to phenolphthalein by addition of a solution of sodium hydroxid. The casein is then completely precipitated by addition of standardized acetic acid; the volume of the mixture is made up to 200 c.c. by addition of water and then filtered. Into 100 c.c. of the filtrate a standardized solution of sodium hydroxid is run until neutral to phenolphthalein. From the difference between the amount of acid and the amount of alkali used, a simple calculation enables one to determine the percentage of casein in the milk examined. The method is described at length.

18. **Diagnostic Skin Reactions in Acute Infections.**—Deeming it possible to diagnosticate accurately the species and variety of infecting organism by scarifying a small area of the skin with a definite amount of each of the dead organisms suspected, Hirshberg devised the following method: The skin is scarified with sterile water, a salt solution of physiologic strength, or 50 per cent. glycerin and 1 per cent. phenol in isotonic salt solution. This is used as a control. Usually 5 other vaccinations are made. The types of organisms used depend on the suspected infection. A fairly good reaction shows a slightly reddened area in the neighborhood of 5 mm. in diameter with slightly tense, firm and hard center. A moderately good reaction shows the hyperemic area about 10 mm. persistent and distinctly infiltrated. A very good reaction shows a distinctly edematous site about 25 mm. or more and marked infiltration and hyperemia. On what this reaction depends Hirshberg has not yet determined. So far this method has been used in 22 cases. Known cases were sometimes taken in order to determine the value of the method.

19. **Examination of Gastric Contents and Feces.**—The main part of the apparatus devised by Bassler consists of the well-known form of fermentation tube, the upright limb of which has a 15 c.c. capacity and is graduated in per cents., and the bulb a 30 c.c. capacity. The tube is less than 6 inches in height, so that it will go into a medium-sized incubator, and is constructed so that 25 c.c. sufficiently fills the instrument. Into it is placed a portion of an Ewald test meal; or for the chemical test of feces, 7.5 grams of the soft end of a stool (mushy consistence) or 10 c.c. of a fluid stool (each of which are mixed in 25 c.c. of water). In the bacteriologic examinations, the tube is filled with bouillon or a 2 per cent. dextrose in bouillon and inoculated with about 1 c.c. of the test meal or 3 or 4 drops of the watery suspension of feces. In the case of the chemical test of the feces, the weighed portion of the stool is thoroughly mixed with water in a casserole by means of a common teaspoon and any large sticks of cellulose or vegetable substance present removed. The fermentation tube (a) is then placed in a water-jacketed oven, where it is kept for twenty-four hours at 37 C., when the examinations are made. If at the time of examination more or less feces and incorporated gas are seen at the top of the fluid in the upright tube, No. 3 or 4 shot are placed into the bulb which is then filled with water, and corked so that no air from without is confined. After this the instrument is shaken to allow the shot to break up the floating fecal mass at which the gases from it are liberated; such gas as escapes into the bulb is then passed back again into the upright end, the cork withdrawn, some of the fluid run out, and the observations made as follows:

First the total gas content is observed, after which in the feces tests some of the fluid is extracted and examined for indol and uroresin, and in the nutritive media for aerobic bacteria. The carbon dioxid present is extracted by introducing into the contents 1 or 2 c.c. of saturated solution of sodium hydrate by means of the pipette, and the tube inclined to permit this heavy solution to run up into the upright portion and allowing 15 minutes of time for complete extraction. The rise in the fluid corresponds to the amount of carbon dioxid present. The remaining mixed gases are then tested in the twin bottles, being driven through, when the cock is opened, by means of adjustment and blowing. The reactions are noted in the bottle which contains a very weak solution of neutral litmus (a control in a test tube being used to note the color change), or distilled water into which are put small pieces of phenolphthalein and methyl-orange papers (the first turns red with alkalies and the second turns red with acids). Another bottle contains common lead water to note the presence of sulphuretted hydrogen (turns black); and the hydrogen and marsh gas may be ignited at the outlet, but as both of these burn with an indistinguishable blue flame and neither is important in the clinical way, the authors consider that this may be omitted. With the nutritive media the contents of the closed upright limb is then examined for anaerobic bacteria.

20. **Treatment of Recurrent Hordeolum.**—Brav's line of treatment is the following: During the acute stages hot applications are advised. As soon as the acute stage has somewhat subsided, he applies locally the following mixture:

℞.	gm. or c.c.	
Tincturæ arnicæ	16	℥ss
Tincturæ opii	8	ʒii
Liquoris plumbi subacetatis dil.	8	ʒii
Aquæ destillatæ	90	q. s. ℥iii

M. S.: Apply locally by means of absorbent cotton at bed time.

After the disappearance of the stye for a period of four weeks, the following antiseptic ointment is employed:

℞.	*gm. or c.c.*	
Hydrargyri chloridi corrosivi	008	gr. ⅛
Petrolati albi	8	ʒii

M. S.: Externally.

This should not be merely smeared over the lids, but should be applied with gentle massage every night. Prior to the application of this antiseptic ointment hot compresses should be applied to stimulate the circulation of the margin of the lids. While an ordinary stye does not always require the correction of any errors of refraction it is always an essential procedure in the recurrent type. It is often a contributory factor in the development of styes. Having corrected any error of refraction an antiseptic nasal wash is given. A teaspoonful of boric acid in a glass of water to be snuffed up, twice daily, is a good simple procedure. The constitutional aspect of the case must, of course, be remembered. Brav usually employs compound syrup of hypophosphites with good result. In order to keep the bowels in good condition he incorporates the fluid extract of cascara.

℞.	gm. or c.c.	
Extracti cascaræ fluidi	16	℥ss
Syrupi hypophosphati, comp.	90	q. s. ℥iii

M. S.: A teaspoonful three times a day.

This simple method of treatment has never failed in his hands and even the most protracted cases have yielded to this medication within four weeks' time, provided the intelligent cooperation of the patient can be secured.

21. **Mammary Fibroadenoma.**—Denenholz reports a case of this kind in which both breasts of a young male were involved.

Lancet-Clinic, Cincinnati

September 11

23 Therapeutic Nihilism. L. A. Molony, Cincinnati.
24 Obscure Fractures Discovered by Roentgen-Ray Examination. S. Lange, Cincinnati.
25 Acute Catarrhal Otitis Media. W. E. McKinley, St. Joseph, Mo.

Medical Fortnightly, St. Louis

August 25

26 What the Physician who has no X-Ray should Know about It. N. M. Eberhart, Chicago.
27 Little Stories of Physician and Patient (continued). A. H. Moodricker, Wabash, Ind.

Northwestern Lancet, Minneapolis

September 1

28 The Epidemiology of Anterior Poliomyelitis. H. W. Hill,
29 . Country Bank Stocks. J. J. Lam-
30 W. T. Adams, Elgin, Minn.
31 *. M. S. Henderson, Rochester, Minn.

31. **Retroperitoneal Lipoma.**—Henderson reports a case in which a tentative diagnosis of ovarian tumor was made, and exploration advised. The abdomen was opened through a median incision. All the intestines, including the transverse colon, were found down in the pelvis, while the stomach and liver were crowded up against the diaphragm. The mass was seen to be retroperitoneal, presenting largely through the gastrocolic omentum, making a tumor a little larger than a full term pregnancy. Fat lobules showed clearly through the peritoneum, and it could be made out that the tumor had its origin in the left kidney region extending through the mesentery well across into the right side. The posterior layer of the peritoneum was incised, and the tumor seen to be non-encapsulated. It was carefully shelled out, the greater part coming in bulk, but much of it being taken out piecemeal. The kidney was not molested, as it was not densely adherent to the growth. Comparatively little bleeding was encountered, and that was controlled by clamps and afterward by ligation. The posterior layer of the peritoneum was then drawn together, and the median incision closed in the usual manner. No drainage was provided. The tumor weighed 19¾ pounds. Recovery was uneventful, the patient returning to her home in three weeks.

Vermont Medical Monthly, Burlington

August

32 Hydrotherapy. J. B. Macdonald, Concord, N. H.

Colorado Medicine, Denver

August

33 Typhoid Fever in Infancy. W. T. Little, Canon City.
34 Medical Treatment of Advanced Pulmonary Disease. J. F. McConnel, Colorado Springs.
35 Treatment of Typhoid. H. S. Henderson, Grand Junction.

September

36 Importance of Early Diagnosis in Certain Troubles of the Upper Abdomen. C. B. Lyman, Denver.
37 Tuberculous Involvement of the Bones in Childhood. H. W. Wilcox, Denver.
38 Rheumatism in Childhood. W. T. Spaulding, Kersey.

Illinois Medical Journal, Springfield

September

39 Diagnosis of Exophthalmic Goiter. H. T. Patrick, Chicago.
40 *Medical Treatment of Exophthalmic Goiter. D. Hecht, Chicago.
41 *Advisability of Thyroidectomy in Catatonic Dementia Præcox. A. B. Kanavel, L. J. *Pollock*, and A. B. Eustace, Chicago.
42 Tuberculosis in Infants and Children. C. W. Lillie, East St. Louis.
43 *Early P by Different Tuberculins.
44 *Cutaneo Tice, Chicago.
45 *Serother Meningitis. F. S. Churc
46 Race Breeding. J. Grinker, Chicago.
47 Typhoid from a Municipal Standpoint. H. Spalding, Chicago.
48 Immunity. W. C. Bouton, Waukegan.

40. Abstracted in THE JOURNAL, June 19, 1909, p. 2018.

41. **Thyroidectomy in Catatonic Dementia Præcox.**—In three patients operated on by Kanavel seven-eighths of either the right or left lobe of the thyroid was excised without cutting any muscle, except the platysma. The patients all made an immediate and uneventful recovery. The glands were sectioned and studied. In three cases parathyroids were removed by choice to note what effect this might have on the course. Two glands were practically normal, two showed excessive parenchymatous growth; one was a marked colloid growth. Marked hyperemia was present in all of the glands and microscopic hemorrhage was commonly present. So far as could be determined the parathyroids removed did not show any characteristic pathologic change. Kanavel concludes that while one cannot assume any distinct pathologic basis for ascribing dementia præcox to a hyperthyroidism similar to Graves' disease, the pathologic picture cannot definitely exclude a perverted thyroid metabolism as a factor. Partial thyroidectomy is absolutely of no avail in old cases. But when one remembers that Berkley has had five patients apparently completely recover and Kanavel has had two greatly im-

proved, if not cured, by this procedure, and nothing else is known which may offer any hope in this group of psychoses, it seems justifiable to continue investigations in the early cases.

43, 44, 45. Abstracted in The Journal, June 5, 1909, pp. 1878, 1881.

Mississippi Medical Monthly, Vicksburg

September

49 Diagnosis of Malaria. W. Krauss, Vicksburg.
50 The Financial Aspect of the Medical Profession. D. G. Mohler, Gulfport.
51 Why Join the County Society? M. J. Alexander, Tunica.

Philippine Journal of Science, Manila

June

52 Development of a Piroplasma and Trypanosoma of Cattle in Artificial Culture Media. E. Martini, Manila.
53 *Bactericidal Substances in Fibrin. A. F. Coca, Manila.
54 Development of the Miracidium of Paragonimus under Various Physical Conditions. P. E. Garrison, U. S. Navy, and R. Leynes, Manila.
55 Intestinal Worms of 385 Filipino Women and Children in Manila. P. E. Garrison, U. S. Navy, and R. Llamas, Manila.
56 *Relation of the Indian Form of Relapsing Fever to African Tick Fever. R. P. Strong, Manila.
57 Diet and Nutrition of the Filipino People. H. Aron, Manila.
58 Poisonous Snakes of the Philippine Islands. L. E. Griffin, Manila.

53. **Bactericidal Substances in Fibrin.**—The claim has been made in recent years that fibrin is a carrier of considerable quantities of bactericidal and hemolytic substances, and therefore is an important therapeutic means in the combating of infections, chiefly of a localized inflammatory nature. Bergel claims to have found both antibodies and complement in washed fibrin, and was the first to make practical use of this element of the blood as a therapeutic agent. Coca repeated some of the experiments described by Bergel, and always with the same result, namely, that there is an incomparably greater quantity of the substances under consideration in the serum than in the fibrin of the same specimen of blood. Consequently, the logical conclusion of his study is that dependent on the classes of substances under investigation, it must be considerably more advantageous to use the corresponding serum for the purpose of treatment. However, it becomes apparent that if the injected fibrin does prove to be efficacious in the cases mentioned, it will not be because it carries bactericidal substances.

56. **Indian Form of Relapsing Fever.**—Experiments conducted by Strong seem to show that Bombay spirillum fever is distinct from African tick fever, but that it constitutes a form of relapsing fever very closely related to, if not identical with, the forms of relapsing fever encountered in Europe and the United States. However, it does not yet seem clearly demonstrated that the American and Indian strains are distinct from the European, if not identical.

Journal of Abnormal Psychology, Boston

August

59 *Dissociated Personality. C. D. Fox, Philadelphia.
60 Complete Autopsychic Amnesia. E. Jones, Toronto.
61 Mechanism of Amnesia (concluded). I. H. Coriat, Boston.

59. **Dissociated Personality.**—The case reported by Fox was characterized by the presence of somnambulistic states and ambulatory automatism; recovery followed the employment of hypnotic suggestions.

Journal of the New Mexico Medical Society, Albuquerque

September

62 *Fractures of the Skull. L. G. Rice, Albuquerque.*
63 Acute Intestinal Diseases of Children. C. E. Lukens, Albuquerque.
64 Headaches. J. A. Reidy, Albuquerque.
65 Diagnosis of Appendicitis. W. L. Bishop, Billings, Mont.
66 Articular Rheumatism. F. J. Patchin, Albuquerque.
67 Nephritis or Bright's Disease. L. G. Rice, Albuquerque.

Bulletin Johns Hopkins Hospital, Baltimore

September

68 *Relation of the Islands of Langerhans to Glycosuria. W. G. MacCallum, Baltimore.
69 *Tuberculosis of the Parathyroids and its Relation to the Occurrence of Tetany in Tuberculous Meningitis. M. C. Winternitz, Baltimore.
70 *Use of Animal Membrane in Producing Mobility in Ankylosed Joints. W. S. Baer, *Baltimore.*
71 Municipal Management of Tuberculosis. W. C. White, Pittsburg.
72 *Chloroform Poisoning: Liver Necrosis and Repair. G. H. Whipple and J. A. Sperry, Baltimore.

68. **Islands of Langerhans and Glycosuria.**—MacCallum found that when a portion of the pancreas is separated from the rest and its duct ligated, it undergoes extensive atrophy, a tissue remaining which is apparently composed of enlarged islands of Langerhans and the remnants of pancreatic ducts. If the rest of the pancreas be removed, this atrophied remnant is capable of warding off glycosuria even when considerable amounts of dextrose are ingested. When it is removed also, glycosuria appears at once spontaneously. Whether the glycosuria would persist until the death of the animal remains to be determined, but MacCallum believes that this experiment suggests the possibility that there may be some compensation on the part of other organs, both with regard to glycosuria and the faulty assimilation in so far as it was intended as a demonstration of the specific control of carbo*hydrate metabolism by the islands of Langerhans.*

69. **Tuberculosis of Parathyroids and Tetany.**—During the past year, two patients suffering with tetany as a terminal complication of acute miliary tuberculosis have come to autopsy at the Johns Hopkins Hospital. Both patients were colored women, aged 21 and 26 years respectively. The illness was acute, and in both cases typical symptoms of tetany had been observed during life. At autopsy both showed general miliary tuberculosis. In one of the cases there was a small focus of tuberculosis in one parathyroid gland. The parathyroids were not carefully examined in the first case, but *it is interesting to note that the convulsions immediately sub*sided following the injection of calcium into the arm vein. Winternitz holds that it seems quite possible that in certain cases of tuberculosis there may be a marked disturbance in the calcium metabolism. This might be of sufficient extent alone to bring about a deficit in the calcium of the circulating fluids, and in this way cause an hyperexcitability of the nerve cells. This is at least a tempting hypothesis which would explain tetany in some cases of tuberculosis in which no lesion of the parathyroid is demonstrable. On the other hand, if there is already a deficit of calcium in the circulating fluids of the body, a slight injury to the parathyroids might very readily be of crucial importance and cause sufficient additional disturbance in the calcium metabolism to bring about tetany.

70. Abstracted in The Journal, Aug. 7, 1909, p. 478.

72. **Chloroform Poisoning.**—Whipple and Sperry report the results of experiments which they believe prove beyond doubt that chloroform is a powerful poison, that narcosis with this drug for any considerable length of time invariably causes central necrosis of the liver (in animals), and that this necrosis, if extreme, will cause death. The essential change is an extensive necrosis and fatty degeneration of the liver. There may be numerous ecchymoses and hemorrhages into the peritoneum or upper intestinal tract. The pancreas may show many fat necroses and ecchymoses. The kidney and heart may present a moderate grade of fatty degeneration. Repair is effected by solution of the necrotic liver cells and rapid multiplication of the remaining peripheral cells. Cirrhosis does not follow extensive central necrosis and repair.

Texas State Journal of Medicine, Fort Worth

September

73 *Experimental Study of the Use of Nitrites in Accidents Occurring During Anesthesia. O. H. Plant, Galveston.
74 *Four Unusual Neoplasms of the Uterine Adnexa. B. F. Stout, San Antonio.
75 The Musca Domestica as a Carrier of Disease: The Improvement of Sanitary Conditions in Country Homes and Villages. A. L. Lincecum, Louise.
76 Gynecologic Conditions which may Arise from Pathologic Changes in the Contents of Pregnant Uteri, with Special Reference to Chorion Epithelioma. E. Dunlap, Dallas.
77 Skin Diseases and the Public. I. Dyer, New Orleans, La.
78 Treatment of Chronic Suppurative Otitis Media. J. H. Foster, Houston.
79 Necessity of an Early Diagnosis and Treatment of Acute Purulent Otitis Media. F. D. Boyd, Fort Worth.

73. **Nitrites in Accidents During Anesthesia.**—According to Plant, the administration of nitroglycerin or other nitrites in accidents during anesthesia is not only contrary to the principles of rational therapeutics, but a dangerous procedure as well. Experiments by Plant demonstrated that nitroglycerin only exaggerates the depression of the heart and respiratory

center when it is given during those stages of anesthesia where a stimulant is indicated; for instead of having a beneficial effect in these experiments it prevented the recovery of the animals, even when artificial respiration was performed. The failure of these animals to recover from the anesthetic when nitroglycerin was used, could only have been due to the nitroglycerin itself; for in the last series of experiments in which exactly the same conditions prevailed as to anesthesia, the injection of true cardiac and respiratory stimulants (i. e., strychnin and cocain) was sufficient to bring about the recovery of the animals without any artificial respiration.

74. **Neoplasms of Uterine Adnexa.**—The cases reported by Stout are (1) bilateral fibromata of the ovary; (2) primary myoma of the broad ligament; (3) sarcoma of the ovary; and (4) primary adenocarcinoma of the Fallopian tube.

Journal Arkansas Medical Society, Little Rock

August

80 Amebiasis. J. J. Jelks, Memphis, Tenn.
81 Causation, Mode of Infection, Prevention and Hygiene of Tuberculosis. E. R. Dibrell, Little Rock.
82 Clinical Observations in Doing Mastoid Surgery. R. Caldwell, Little Rock.
83 An Interesting Case of Abdominal Surgery. G. S. Brown, Conway.
84 Reynaud's Disease. T. G. Brewer, Osceola.
85 Separation of Lower Epiphysis of Radius. T. F. Kittrell, Texarkana.

Louisville Monthly Journal of Medicine and Surgery

September

86 The Antituberculosis Movement. J. Glahn, Owensboro, Ky.
87 Cervical Lacerations. L. Bloch, Louisville.
88 *Cancer in Two Members of the Same Family. J. G. Sherrill, Louisville.
89 *Subperitoneal and Retroperitoneal Fibroid Tumor of Unusual Shape. L. Frank, Louisville.
90 Cerebrospinal Meningitis. J. B. Marvin, Louisville.

88. **Cancer.**—One of Sherrill's patients was a young man, 25 years of age, who had been suffering from symptoms of obstruction. On examination of the rectum, Sherrill found a hard cancerous tumor surrounding the gut about two inches above the anus. The patient's mother, a woman about 47 years of age, who had been having uterine hemorrhages, on examination was found to have an epithelioma of the cervix.

89. **Subperitoneal and Retroperitoneal Fibroid.**—On opening the abdomen half of the tumor was found above and the rest of it wedged into the pelvis. It could not be moved or lifted out of the pelvis; the peritoneum hugged the tumor pretty closely, passing on to the rectum. On the left side, however, was a large pus tube which had been leaking, over which tube was agglutinated the sigmoid and one coil of small gut, but as soon as these were separated the pus began to escape. Frank walled this side off with gauze and then placed a large clamp on the tube on the left side, ligated the tube and ovary on the other side and cut them away; then clamped the round ligament, then deflecting the bladder downward over the front of the tumor, the broad ligament was opened up and the ureter and uterine vessels were exposed. The uterine vessels were isolated and caught with a clamp and then the tumor was cut across. He tied all the vessels, then passed the hand down between the vagina and the deep pelvic portion of the tumor, separating the vagina, then lifting the tumor away from the separated vaginal wall with the right hand; the peritoneum on each side was made taut and split, leaving the tumor unattached and easy to roll out. As soon as it came out the tumor assumed a cylindrical shape. It sprang entirely from the posterior wall of the uterus. Frank never before removed a tumor in this manner, nor has he seen any mention of such a procedure.

Pennsylvania Medical Journal, Philadelphia

August

91 Bacterial Vaccines and the Opsonic Index. A. P. Hitchens, Glenolden.
92 *Adenopathy in Infectious Conditions of the Buccal Region. E. Rosenthal, Philadelphia.
93 *Importance of Rhinologic Examination in Meningitis of Doubtful Origin. R. H. Skillern, Philadelphia.
94 Hot-Air Current in Treatment of Certain Ear Affections. L. L. Doane, Butler.
95 *Acute Contagious Conjunctivitis. O. H. Fretz, Quakertown.
96 Scope of Local Anesthesia in General Surgery. L. J. Hammond, Philadelphia.
97 Spinal Anesthesia: Clinical Study of 658 Administrations. W. W. Babcock, Philadelphia.
98 Roentgen-Ray Interpretations. S. L. McCurdy, Pittsburg.
99 A Plea for More [illegible] in Chronic Gastric Disturbances.
100 *Recent [illegible] amors of the Breast. J. [illegible]
101 Gall-S[illegible] [illegible], Connellsville.
102 The [illegible] J. W. Wainwright, Buffalo, N. Y.

92, 93, 95. Abstracted in THE JOURNAL, Oct. 24, 1909, pp. 1455, 1456.

100. Abstracted in THE JOURNAL, Oct. 31, 1909, p. 915.

West Virginia Medical Journal, Wheeling

August

103 Rheumatism in Children. S. L. Jepson, Wheeling.
104 Infant Feeding. E. F. Glass, Wheeling.
105 Diphtheria. G. D. Jeffers, Parkersburg.
106 The Child and the Public School. O. G. Wilson, Wheeling.
107 Defective Eyesight in Public School Children. E. R. McIntosh, Elkins.
108 Laryngismus Stridulus—Report of a Fatal Case. H. Beates, Philadelphia.

September

109 Nervous Dyspepsia—Misapplication of the Term. T. A. Williams, Washington, D. C.
110 Fractures. A. P. Butt, Davis.
111 *Exophthalmic Goiter. J. A. Guthrie, Huntington.
112 Cardiac Asthenia, Cheyne-St[illegible] dycardia, Adams-Stokes Syndrome. L[illegible]
113 *A New Suture. R. M. McMil[illegible]
114 Piece of Stone in the Iris for [illegible] Dickey, Wheeling.

111. **Exophthalmic Goiter.**—Guthrie reports three cases of exophthalmic goiter treated successfully with Beebe's serum. The symptoms were typical, so that there was no doubt about the correctness of the diagnosis. The cases were recent ones. A cure was effected in each instance in about three months.

113. **A New Suture.**—McMillen has devised a suture which he believes to be superior to the sutures commonly employed. It is made as follows: First put in the suture the same as the ordinary interrupted suture. Thread the reverse end of suture, insert needle into the skin very close to the edge of the wound, about one-sixteenth of an inch. Pass the needle through the skin only, and on over, and catch the skin on wound side and come out on cuticle side about one-sixteenth inch from edge. The suture is then tied by a reef knot drawn with sufficient force to bring deep structure together. The inner margins of the skin will then be seen to be in exact apposition, and the cut surfaces of the skin will be together when the pressure of the dressing is applied. The knots are at the side of the wound, and their removal will not disturb the line of union. The line of union is not constricted by the suture and the blood and nerve supply is not interfered with. He states that this suture reduces the size of the scar to a minimum.

Journal Michigan State Medical Society, Detroit

August

115 Surgery in Treatment of Hypertrophic and New Growths of the Face. A. P. Biddle, Detroit.
116 Bacteriology and its Relation to Public Health. M. L. Holm, Lansing.
117 [illegible] B. N. Epler, Kalamazoo.
118 [illegible] ll, Flint.
119 [illegible] Ionia.
120 [illegible] J. J. Reycraft, Petoskey.

September

121 Indications for Major Gynecologic Operations. R. R. Smith, Grand Rapids.
122 Technic for the Intramuscular Injection of Mercury in Syphilis. H. R. Varney, Detroit.
123 William Beaumont and his Work in the Light of Modern Research. B. R. Corbus, Grand Rapids.
124 The Specialist and the General Practitioner. F. B. Tibbals, Detroit.

California State Journal of Medicine, San Francisco

September

125 Requisites for the Treatment of the Psychoneuroses; Psychopathologic Ignorance and the Misuse of Psychotherapy by the Novice. T. A. Williams, Washington, D. C.
126 *Chronic Colitis. D. Fulton, Los Angeles.
127 Treatment of Mucomembranous Colitis from the Standpoint of its Bacterial Origin. R. L. Wilbur, Palo Alto.
128 A Phase of Unequal Inspiratory Murmur. T. C. Edwards, Salinas.
129 Conservative Surgical Procedures for Protecting and Preserving Pelvic Organs. J. H. Sampson, San Jose.
130 [illegible] Treatment of Arteriosclerosis. B. [illegible]
131 [illegible] T. J. Clark, Oakland.
132 [illegible] of Tuberculins. E. von Adelung, Oakland.
133 The Immediate Removal Treatment of Morphin Habituation. R. E. Bering, Tulare.
134 Surgical Treatment of Trifacial Neuralgia. C. D. Lockwood, Pasadena.

135 Cutaneous Anesthesia as a Symptom of Osteomyelitis. H. I. Wiel, San Francisco.
136 Rheumatism: Its Relation to Diseases of the Throat. B. F. Walker, Fresno.
137 Suture of the Aorta. H. E. Castle, San Francisco.
138 *Reverse Peristalsis. R. Brown, Santa Barbara.
139 *Mercury in Tuberculosis. G. G. Moselay, Redlands.

126. **Chronic Colitis.**—Fulton's paper is a summary of 158 cases of chronic colitis in which the disease was limited to a large bowel. Of the 158 cases, 67 were males and 91 were females. The youngest individual was a boy of 6 and the oldest a woman of 65; 75 per cent. of the patients were from 20 to 50 years of age. The duration of the disease was from 2 months to 20 years. One hundred and forty-two, or 85 per cent., were poorly nourished; ptosis of the stomach was present in 118 cases. The right kidney was palpable in 53, both kidneys in 15, and the left kidney alone in 2 cases. Ninety-two had the "habitus enteropticus;" 154 had chronic constipation. In 131, the constipation was of the spastic variety. Four of the 158 patients had diarrhea, and 7 alternating constipation and diarrhea; 3 stated that their bowel functions were normal.

The symptomatology consisted of constipation, mucus, flatulence and abdominal distress, besides a large number of reflex, nervous, dyspeptic and circulatory disturbances. The treatment was based on the principle that in the large majority of cases chronic colitis is a superficial catarrh of the large bowel which accompanies chronic constipation. Contrary to usual custom no treatment was directed primarily to the nervous system. Endeavor was made to restore, when indicated, the abdominal pelvic organs to their normal anatomic relations. Properly-fitting abdominal supporters or corsets were therefore invariably prescribed when marked ptosis of the stomach or colon was present, and for displacements of the uterus operations for their correction were advised. In two cases colonic adhesions were no doubt the cause of the constipation and its resulting colitis. One of these patients was permanently cured by surgical treatment. The other presents evidence of reformation of adhesions since the operation, two months ago. Twenty-eight of the 158 patients have been lost sight of; of the remaining 130, 18, or 14 per cent., received no benefit, or soon relapsed after the cessation of active treatment; 36, or 28 per cent., were greatly benefited, by which is meant freedom from symptoms, except an occasional temporary return of constipation; 76, or 58 per cent., have remained well.

138. **Reverse Peristalsis.**—Brown did a posterior drainage operation with the Murphy button to relieve the symptoms dependent on carcinoma of the pylorus in a man of 65. The stomach was found to be about normal in size. The immediate convalescence was uneventful—patient was home in two weeks and was eating and enjoying solid food in the third week. Free easy bowel movements occurred daily. One month after the operation, having been outdoors and very comfortable all the morning, the patient had a light luncheon, immediately followed by abdominal pain, severe enough to send him to bed. He felt nauseated and vomited a small amount of greenish-yellow fluid. Shortly after he had a large, free evacuation. During the afternoon the patient was not especially uncomfortable, though he had some pain. Toward evening the nurse noted that the abdomen was a trifle distended and hard. She gave one and one-half quarts of a saline solution—three large teaspoonfuls of salt to a quart of water—which failed to give relief. Immediately the abdomen progressively increased in size. Becoming alarmed, the nurse gave another quart and a half of saline enema. This, too, failed to relieve, and the abdomen attained still greater dimensions. The patient vomited volumes of fluid of a very salty taste and containing fecal matter. Examination revealed a patient practically in collapse. Eserin 1/50 and atropin 1/60 hypodermically were given at once. The patient was turned on his left side. No more vomiting occurred, the abdomen rapidly fell to its normal proportions and the pulse dropped to 90. By midnight the patient was asleep and had a fairly easy night. The next afternoon, by enema, there was a large, loose movement in which the button came away.

139. **Mercury in Tuberculosis.**—The results obtained by Mosely in 33 cases are as follows: Marked improvement, 5 (15.15 per cent.); slight improvement, 11 (33.33 per cent.); stationary, 8 (24.24 per cent.); failed, 4 (12.12 per cent.); died, 5 (15.15 per cent.).

Iowa Medical Journal, Des Moines

August

140 *The Seamy Side of Surgery. G. G. Cottam, Rock Rapids.
141 irgeon. V. Knott, Sioux City.
142 ractures. A. B. Bowen, Maquoketa.
143 . C. H. James, Centerville.
144 Treatment of Appendicitis. P. E. Sawyer, Sioux City.
145 The X-Rays as an Aid to the Physician in General Practise. R. D. Mason, Omaha, Neb.

140. Abstracted in The Journal, July 10, 1909, p. 139.

Washington Medical Annals

September

146 *Home Treatment of Insanity. P. C. Hunt, Washington.
147 Diseases of the Ear, Complicating Measles and Scarlatina. W. A. Wells, Washington.
148 Prognosis and Dietetic Management of Diabetes Mellitus. H. D. Fry, Washington.
149 *Arthrodesis for Flail-Foot. A. R. Shands, Washington.
150 Specimens of Urinary Calculi. H. A. Fowler, Washington.

146. **Insanity.**—In acute insanity the treatment employed by Hunt resolves itself into rest in bed, overfeeding, wet pack, fresh air and the occasional use of drugs, as may be indicated. The patient should be put to bed at once. Remove all sharp instruments, drugs, etc., have the windows so arranged that they may not be opened over six inches. The bed treatment impresses the patient with the fact that he is ill, and by further impressing the fact that the illness is curable, and by not occupying the patient's mind with games, odd jobs, etc., but by treating the disease as an ordinary illness, we obtain both physical and mental rest, and the result is a more frequent and speedy recovery. If motor excitement be present, it may require the temporary use of drugs, but it is much better for the patient to resort at once, if possible, to hydrotherapy. The warm bath produces diaphoresis, influences the circulation, lowers the blood pressure, causes the elimination of morbid products, renders the surface of the body less sensitive and produces a sedative action. The cold bath should be used only in cases that respond to the severe shock produced by the application of cold water to a large surface of the body, and it should be followed by energetic rubbing. It increases the nervous energy, stimulates the functions of the body and raises the blood pressure. The spray, either warm or cold, should follow the bath in suitable cases, for about five minutes. It is produced by a nozzle attached to a rubber tube which is connected with the spigot. The wet pack is very useful in excited patients, as well as in insomnia. It may be used either hot or cold, as the condition of the patient warrants, and may be continued for from twenty minutes to several hours. The wet pack also proves a good temporary restraint for excited patients. Insomnia is almost a constant feature of the acute forms of insanity. Drugs should be used only when indicated. Massage and gentle faradism are useful aids to nutrition. Overfeeding is necessary to restore the great waste of tissue going on in the system. As autointoxication is a frequent factor in the etiology of insanity, the alimentary canal should receive prompt and careful attention, the result at times of such attention being most gratifying.

149. **Arthrodesis for Flail-Foot.**—Shands' patient was a little girl, the victim of acute anterior poliomyelitis, both feet having been paralyzed; one foot remained completely useless and was a source of annoyance on account of its extreme flexibility—such as to make the term dangle-foot or flail-foot applicable. The operation of arthrodesis was done, after the method of Whitney. It consisted simply in opening the joint and denuding the articular surfaces—in this case those of the astragalus and the bones of the leg; the result was a beneficent ankylosis. The improvement in the girl's locomotion was very marked.

Northwest Medicine, Seattle

August

151 Relations of the Internal Secretions to Surgical Conditions. R. Park, Buffalo, N. Y.
152 A Correct Medical Discernment. J. L. Stewart, Boise, Idaho.
153 The Medical Profession of Idaho. J. L. Stewart, Boise.
154 Problems of the Medical Profession of the Northwest. C. A Smith, Seattle.
155 The Complement-Deviation Test in Syphilis. R. C. Matson, Portland, Ore.

American Journal of Surgery, New York

September

156 *The Cancer Problem from a Surgical Viewpoint; with Possible Explanation of the Remarkable Freedom of the Duodenum from Cancer Invasion. R. W. Westbrook, New York City.
157 Excision of the Sternum for Sarcoma. A. E. Isaacs, New York.
158 Otitic Brain Abscess. W. S. Bryant, New York.
159 *Abscess of the Brain; Report of Two Cases with Death from Insufficient Exploration. W. H. Magie, Duluth, Minn.
160 Applications of Roentgen Rays in Diagnosis. E. W. Caldwell, New York.
161 *Fibroids and Pregnancy. C. L. Bonifield, Cincinnati.
162 Appendicostomy. J. M. Lynch, New York.

156. **The Cancer Problem.**—It is generally accepted that cancer develops especially in tissues exposed to long-continued irritation, and in scars, chronic ulcers, etc., of long standing. This so-called "precancerous" condition in the stomach is furnished by chronic gastric ulcer, and yet in 1,112 operations on the stomach and duodenum in one clinic there was but one instance of duodenal ulcer becoming carcinomatous. It has been very interesting to Westbrook to note, often, how gastric cancer will extend along the stomach to the pyloric ring, and then stop suddenly short in its progress in that direction, not at all involving the duodenum. The most striking difference in the involvement of the duodenum by cancer as compared with the stomach has received as yet no attention, beyond the statement of the fact, and an adequate explanation of this difference would be going a long way toward solving the cancer problem. Either it is a mistake that ulcer often forms a precancerous stage in the stomach, or there is lacking in the duodenum the essential cause which gives origin to cancer. There is nothing in the tissue formation of the stomach and of the duodenum to explain the great difference, and no one has shown that misplaced histologic cell-elements which might give rise to new growths are vastly more common in the stomach than in the duodenum. Westbrook asks whether this can be explained on the theory that cancer is due to a parasitic cause. It would seem that this would form a reasonable explanation, and that the intestinal secretions are the inhibiting cause which prevents the frequent occurrence of cancer in the upper intestinal tract.

159. Abstracted in THE JOURNAL, Jan. 9, 1909, p. 159.

161. Abstracted in THE JOURNAL, Jan. 16, 1909, p. 242.

Maryland Medical Journal, Baltimore

September

163 *Myasthenia Gravis (Asthenic Bulbospinal Paralysis). I. J. Spear, Baltimore.
164 The True Function of the Tuberculosis Nurse. M. E. Lent, Baltimore.
165 Roger Bacon, Linacre, Caius, Vesalius, Fallopius, Dover. H. M. Cohen, Baltimore.
166 Ideals of Health in Town and Country. C. O'Donovan, Baltimore.

163. **Myasthenia Gravis.**—Spear reports a typical case of myasthenia gravis, pursuing a characteristic course, beginning with transient weakness of the ocular muscles and muscles of mastication, later involving all the voluntary muscles, the respiratory and cardiac muscles, terminating in about four years with cardiac asthenia. There was also present a mediastinal tumor.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

September 4

1 *Cancer in Man and Animals. E. F. Bashford.
2 Development of Physics. Sir J. J. Thomson.
3 *Experiences in the Treatment of Distal Paralysis by Nerve Anastomosis. A. H. Tubby.
4 A Possible Natural Enemy to the Mosquito. J. M. Atkinson.
5 *Delayed Chloroform Poisoning Treated with Dextrose: Recovery. A. A. Weir.
6 Vacuolation of Blood Platelets: An Experimental Proof of their Cellular Nature. H. C. Ross.
7 Hydroa Gestationis. N. M. Falkiner.
8 Syphilis with an Unusually Long Incubation Period. G. P. James.
9 Foreign Body in the Nose for Forty-four Years. D. L. Sewell.
10 Domiciliary Medical Treatment under the Poor-Law. Major Greenwood.

1. Published also in the *Medical Record*, New York, Sept. 4, 1909; abstracted in THE JOURNAL, Sept. 18, 1909.

3. **Nerve Anastomosis.**—The types of paralyses for which Tubby has performed anastomosis are (1) traumatic and (2) infantile paralysis. The total number of patients operated on is eight. These have been watched for a period of not less than 3 years since the operation. Of the 8 cases quoted, 2 were of traumatic origin, of which one patient recovered after complete severance of the nerve, and the other is showing steady progress toward recovery. Of the cases due to anterior poliomyelitis, 6 in number, in 4 there is distinct evidence of a more partial recovery of the muscles, but in 1 of these cases improvement has ceased for a year. In 2 others no clinical signs of regeneration are apparent, even after 4 years. In 1 of the latter cases operative exploration showed, however, that the external popliteal nerve was being regenerated centrifugally.

5. **Delayed Chloroform Poisoning.**—Weir's case presents several points of interest. The abdomen was opened and drained for an abscess which extended down into the pelvis. The anesthetic administered was chloroform, which was taken exceedingly well, the time occupied being about three-quarters of an hour. After the operation, the patient was restless and complained of a good deal of thirst, but vomited once only and that was twelve hours afterward. Saline solution was administered by rectum on account of the thirst. For forty-eight hours the patient seemed well, except for restlessness; the temperature was normal and the pulse good. On the following day, however, the restlessness had become a maniacal delirium, the patient screamed, threw the clothes about, tore off his dressings, and had to be placed under mechanical restraint. There was almost entire absence of vomiting. The urine showed diacetic acid when tested with liquor ferri perchloridi, and although the quantity of urine was not measured, it was judged by the nurse to be about normal. Rectal injections and sodium bicarbonate were continued, and a solution of glucose, half an ounce to half a pint of milk was administered by the nasal tube, and a 10 per cent. solution by the rectum. This was given once every four hours, and, in addition, a good supply of carbohydrate food. For the next twenty hours the patient went from bad to worse, the face became a rich plum color, the coma deepened, frothy saliva oozed from the mouth, and the prognosis seemed absolutely hopeless. Typical Cheyne-Stokes respiration was present, and the sweating was profuse. The pulse, however, remained good, and was never above 108 a minute. The patient retained everything given by the nasal tube and by rectum. After remaining in this desperate-looking condition for a few hours, he began to show a little improvement, the first sign being an attempt to move his head. Within six hours, in fact, the intellect was quite clear and the patient expressed a wish for some food. Recovery was perfect.

British Medical Journal, London

September 4

11 Educational Number.

11. **Educational Number.**—This issue is devoted entirely to medical education.

Journal of Tropical Medicine and Hygiene, London

August 16

12 *Bacterium anaerogenes* Isolated from Human Feces. J. M. Swan.
13 *Filaria (Microfilaria) philippinensis.* C. F. Craig.
14 Apparent Cure of Filarial Hematochyluria. J. R. McDill and W. B Wherry.

Practitioner, London

August

15 *Chronic Ulceration of the Rectum. D'A. Power.
16 The Rôle Played by Diet in Bright's Disease W. B. Warrington.
17 Report on 250 Cases of Spinal Analgesia by the Use of Stovain-Glucose Solution. L. McGavin, and G Williams.
18 *The Treatment of Fractures of Long Bones. J. H. Pringle.
19 Acute Infective Endocarditis treated with a Vaccine Prepared from the Patient's own Blood and Ending in Recovery. A. F. R. Conder, and J. R. Collins.
20 Diagnosis of Permanent Mental Deficiency in Infancy and Childhood. C. P. La Page
21 *Medical Inspection and Treatment of School Children* C. Dukes.

64 Acute Yellow Atrophy of Liver Consecutive to Suppurative Disease in Abdominal Cavity. (Die akute gelbe Leberatrophie als F[illegible] [illegible]ger Erkrankungen der Bauchhöhle.) [illegible]
65 Origin of [illegible] of Hip Joint. (Zur Lehre von der Entstehung der angeborenen Hüftverrenkung.) P. Graf.
66 *External and Internal Secretion Viewed by the Light of Diffuse Incorporated Stain. (Die äussere und innere Sekretion des gesunden und kranken Organismus im Lichte der "vitalen Färbung.") E. E. Goldmann.
67 Nail Extension in Treatment of Fractures. (Ueber Nagelextension.) M. Kirschner.

59. **Retropharyngeal Abscess.**—Rösling epitomizes 17 cases in which operation was by the Chiene technic, and extols its advantages. Recovery was prompt and complete in all but 3 cases in which the patients succumbed to the progress of advanced tuberculosis. He compares the outcome with this technic in the hands of various surgeons with the outcome when the Burkhardt or other technics were followed, the results sustaining his assertions, he declares, *in regard to the superiority of the Chiene method.*

60. **Spinal Anesthesia in 600 Cases.**—Meissner remarks that the recent improvements in the methods of local anesthesia will restrict the field of spinal anesthesia more and more as, even in the hands of experts, it cannot be regarded as free from danger, although it has proved useful when strictly indicated. In 15 of the 600 cases in which spinal anesthesia has been used at von Bruns' clinic at Tübingen, the spine was deformed, the ligaments ossified or the patient was obese to such an extent that it proved impossible to introduce the needle. By using minute amounts of the anesthetic and refraining from raising the pelvis, the anesthesia proved sufficient for operations below the umbilicus, free from threatening mishaps while the by-effects and after-effects were much reduced.

66. **Study of the Vital Processes by Incorporation of a Stain.**—Goldmann injected white mice subcutaneously with 1 c.c. of a 1 per cent. solution of pyrrhol blue and obtained most interesting findings with this "vital staining" which did not seem to injure the health of the animals in the least, although the illustrations show that they had "the blues" to an unprecedented extent. The stain was attracted to different tissues in different ways, and revealed vital processes of internal secretion as well as external, throwing light on many hitherto obscure points, especially in the gravid animals. One of the facts learned was the presence of a certain granulated cell in the connective-tissue cell wherever important metabolic processes were taking place. This cell shares with the stellate liver cells and some others the property of taking up and [illegible] substances dissolved in the blood and holding them a long time.

Berliner klinische Wochenschrift, Berlin

August 30, XLVI, No. 35, pp. 1597-1636

[illegible] Treatment of Tuberculosis of Nasal Septum. (Be[illegible] der Nasenscheidewandtuberkulose.) A. Onodi.
[illegible] Tumor in Third Ventricle of the Brain. (Fall von [illegible]tumor.) A. Piazza.
[illegible] of Right and Part of Left Upper Jaw. (Resektion [illegible]kiefers.) M. *Albricht.*
[illegible] of the Blood. A. de Dominicis.
[illegible]cation of Hip Joint. A. Heschelin and E. Scha-[illegible]
[illegible] Collapse after Injection of Diphtheria Antitoxin. ([illegible]ende Dyspnoe mit Kollaps nach Seruminjek-[illegible]) A. de Bessche.
[illegible] with Paroxysmal Hemoglobinuria. A. A. Hymans [illegible]Bergh.
[illegible] Technic for Wassermann Reaction. J. A. Finkel-[illegible]

[illegible] **Collapse After Injection of Diphtheria An-**
[illegible] physician describes the collapse in his own
[illegible] less than half an hour after a prophylac-
[illegible] units of antitoxin. The [illegible]
[illegible] hours an[illegible]
[illegible]

Correspondenz-Blatt für Schweizer Aerzte, Basle

August 15, XXXIX, No. 16, pp. 545-576

76 *Sahli's Desmoid Reaction as Practical Test of Stomach Functioning and for Control of Therapeutic Measures. R. Nadler.
77 *Treatment of Asphyxia in New-born Infant. (Ein neues Verfahren bei der Behandlung des Scheintodes der Neugeborenen.) Volland.

September 1, No. 17, pp. 577-616

78 *Aims, Means and Problems of Research on Endemic Goiter. (Erforschung des endemischen Kropfes.) W. Kolle.
79 Defects in Skull of New-born Infants. (Wesen und Bedeutung der kraniellen Ossifikationsdefekte Neugeborener.) E. Wieland.
80 Masked Chlorosis. (Ueber "larvierte" Chlorose.) F. Seiler.

76. **Simple, Practicable Tests of Stomach Functioning.**—Nadler extols the simplicity, reliability and diagnostic importance of Sahli's desmoid test of stomach functioning; this is merely the ingestion of a pill of methylene blue around which is drawn tight a tiny square of thin rubber tissue tied with catgut. As the catgut dissolves in the stomach, the rubber springs open and throws out the pill. A positive reaction indicates that the gastric juice is normal or with an excess of acid or pepsin or both. A negative reaction indicates little or no acid or pepsin or else excessive motility. He gives the patient the blue pill tied up in its bag, and also four half-ounce bottles, the corks marked, respectively, I, II, III, IV. The pill is taken with the noon meal and the urine, voided at three-hour intervals thereafter, is poured in turn into the first three bottles, and the urine voided next morning in the fourth. After this the patient eats a Boas-Ewald test breakfast at home, and then with the four bottles he returns to the doctor's office. If the first bottle shows a positive reaction, the gastric juice is normal or hyperacid; the latter condition is diagnosed by the subsidence of disturbances on administration of an alkali. If the reaction is positive only in the second or third bottles, the acidity is not excessive and an alkali will not do so good service as hydrochloric acid or pepsin. In case of a negative reaction he siphons out the stomach content if the patient consents; if not, he gives hydrochloric acid and a pill of iodoform. A positive reaction in three or six hours indicates merely lack of hydrochloric acid. If the reaction is still negative, he gives pepsin with the hydrochloric acid and a methylene blue pill. The urine is always green after this, unless there is excessive motility, and if the gastric disturbances have then subsided the assumption is that the trouble is merely a lack of pepsin or excessive motility. If the gastric disturbances persist, he omits the hydrochloric acid; if there is merely a lack of pepsin, the urine next day will give the iodin reaction. If the disturbances still continue, notwithstanding the ingestion of hydrochloric acid and pepsin, the trouble may be due to hypermotility, and the salol test will decide the matter, especially with Huber's modification. With this technic the patients can see for themselves the secretory anomalies and therapeutic results, and the whole procedure has a tranquilizing effect in nervous gastric disturbances.

77. **Simplified Method of Treating Asphyxia in New-Born Infants.**—Volland had just delivered a woman after difficult labor and the child was in livid asphyxia. There was no one to assist him, and he had to act quickly and alone. Without attempting to cut the cord he set the infant up against the inside of the mother's thigh and took hold of it as for Schultze swinging, but he did not lift the child more than just enough to let it hang by its whole weight from his hands and then set it down again, pressing with his thumbs, the mother's thigh meanwhile offering the counter support for the pressure, which simulated natural expiration. He repeated this lifting rhythmically and soon heard the child's cry. He
[illegible] the umbilical cord. The advantages of this
[illegible] precious time is lost, the child is not
[illegible] rhythm can be made to correspond
[illegible] the maneuver is free from the
[illegible] other technics, while it is

[illegible] 7 per cent. of
[illegible] a goiter,
[illegible]duals is
[illegible]

37. Ovarian Sarcoma.—Lockhart has 65 cases of ovarian tumors in which operation was done during 20 years, and of these, 14 were of malignant nature. These were divided as follows: Sarcomata: right ovary 3, left ovary 2, double 2. Carcinomata: mixed sarcoma and carcinoma 1, papilloma malignum 1.

39. Urinary Fistulas.—Worrall reports the following cases: (1) Vesicocervico-vaginal fistula, hemorrhage into bladder; (2) ureteral fistula; (3) vesicoutero-vaginal fistula; (4) vesicourethro-vaginal fistula; (5) vesicocervico-vaginal fistula; (6) very large fistulas, vesicocervico-vaginal.

Annales de Médecine et Chirurgie Infantiles, Paris

August 15, XIII, No. 16, pp. 541-576

42 *Pathogenesis of Rachitis. P. Hutinel.
43 *Defective and Perverted Thyroid Functioning in Children. L. Concetti.

42. Pathogenesis of Rachitis.—Hutinel reports research on the bone marrow, bones and cartilage, the conclusions being that the disturbances in rachitis are due to an evolutionary dystrophy affecting the least resistant tissues. During the first three or four months of life all the tissues suffer in case of defective assimilation. But, as the child grows, certain organs acquire greater resistance, while others feel more the influence of the nutritional derangement. These dystrophies are particularly important during periods of intense nutritional activity, that is, during the first two years and in adolescence.

43. Defective and Perverted Thyroid Functioning in Infants.—Concetti ascribes to thyroid insufficiency many of the phenomena noted in young infants, such as a tendency to obesity, to transient edema, cold feet and hands, scanty and brittle hair, vasomotor disturbances, vomiting, somnolency and slight resistance to infections. With artificial feeding, these signs become more pronounced, with eczema, urticaria, tardy dentition, etc. It seems evident that nurslings receive in mother's milk some of the products of the mother's thyroid functioning. The physiologic hypothyroidism of the new-born may assume pathologic proportions; any derangement in thyroid functioning on the part of the mother or wet-nurse may lead to severe symptoms of hypothyroidism in the infant. In several instances in his experience infants became myxedematous when the mothers had goiter. In other cases, the healthy infants of healthy parents became myxedematous when they had a wet-nurse with goiter. All these children were cured with thyroid treatment and change of nurse. Experimental research with goats has confirmed, he asserts, the fact of transmission of thyroid secretion by the placenta and in the milk. He is convinced that in many cases the symptoms of thyroid insufficiency in infants have escaped detection or have been attributed to other causes or grouped in other syndromes. There is a promising field for study, he says, in this infantile disthyroidism and the prompt change for the better under thyroid treatment. Typical, complete forms are rare, but the *formes frustes* are encountered on every hand and have been hitherto classed as "lymphatism," "neuroarthritism," atrophy, rachitis, etc. They all show notable improvement and sometimes a rapid cure under correct thyroid treatment, as he has witnessed in many cases. His pupils are now examining infants in crèches, asylums, schools and dispensaries for signs suspicious of defective thyroid functioning, and are instituting thyroid treatment when possible. With the Wassermann test an excess or lack of thyroid secretion can be determined in animals, but the findings are less decisive in the clinic. In some cases the infants seem to be suffering from excessive thyroid functioning, or the deficiency and excess may alternate. The thyroid treatment should be given with caution. He does not give the details of his dosage, but says that he makes a point of treating the nursing mother also.

Archives des Maladies du Cœur, etc., Paris

August, II, No. 8, pp. 449-496

44 *Syphilitic Phlebitis. C. Achard and R. Demanche.
45 The Blood in Lead Colic. (Des altérations des globules rouges au cours de la colique de plomb.) N. Flessinger and A. Peigney.

44. Syphilitic Phlebitis.—Achard's patient, a waiter 20 years old, presented swelling and pain in the left knee simulating phlegmasia, of abrupt onset, but explained by a history of possible syphilitic infection nearly three months before. There were also evidences of roseola and of secondary syphilitic nephritis, with pronounced albuminuria and edema. Under mercurial treatment the phlebitis and the edema subsided completely, but some albuminuria still persisted when the patient left the hospital about the seventh week.

Presse Médicale, Paris

August 25, XVII, No. 68, pp. 601-608

46 The Karyogamic Theory of the Origin of Cancer. (Problème du cancer et la biologie générale.) L. Hallion.
47 Cerebrospinal Meningitis. (Quelques particularités bactériologiques et cytologiques dans la méningite cérébro-spinale.) G. Fischer and P. Scherrer.
48 Tenotomy of Achilles Tendon. V. Veau.

August 28, No. 69, pp. 609-616

49 Apparatus or Electricity in Treatment of Peripheral Muscular Atrophy. (Mécanothérapie ou électrothérapie dans le traitement des atrophies musculaires périphériques.) E. Rochard and P. de Champtassin.
50 Pathogenesis of Phlegmons of the Hand. L. Imbert.

September 1, No. 70, pp. 617-624

51 Hysterectomy by Anterior Section of Cervix. (Quelques mots en faveur de l'hystérectomie par décollation antérieure.) T. de Martel.

Semaine Médicale, Paris

September 1, XXIX, No. 35, pp. 409-420

52 Combinations of Drugs in Therapeutics. (Des synergies médicamenteuses et de leur utilisation systématique en clinique.) M. Roch.
53 *Guaiac Test for Blood in Helminthiasis. (Réaction de Weber et trichocéphale.) J. Guiart and C. Garin.

53. The Guaiac Blood Test and Helminthiasis.—Guiart found the Weber reaction positive in thirteen cases in which the eggs of the trichocephalus were found in the stools, and eggs were never found without this positive reaction occurring sooner or later. The patients were on a diet that excluded all source of error from this cause, so that the conclusion seems inevitable that the trichocephalus induces hemorrhage in the intestines, the presence of occult blood being revealed by this sensitive test. This is of considerable practical importance, as the symptomatic value of the test thus depends on whether the patient is free from the trichocephalus or not. The findings are reliable only when the stool gives negative microscopic findings in regard to this parasite. This test for occult blood is frequently accepted as decisive for cancer of the stomach or intestine, but its differential value is annulled if the eggs of the trichocephalus are found in the stools, and statistics show, he says, that this parasite occurs in about 50 per cent. of the population. He has not found the reaction so constantly in case of presence of ascarides. The Weber test should never be accepted as decisive in case of positive findings unless the stools are examined under the microscope at the same time.

Archiv für Verdauungs-Krankheiten, Berlin

August, XV, No. 4, pp. 443-555

54 Importance of Dietetic and Therapeutic Measures even for Nervous Functional Dyspepsia. A. Schule.
55 *Value of Salomon Test in Diagnosis of Stomach Carcinoma. (Wert der Salomonschen Probe für die Frühdiagnose des Magenkarzinoms.) E. H. Goodman (Philadelphia).
56 Yoghurt and Its Indications. (Kritik des Yoghurt und die Indikationen für seine Anwendung.) E. Rosenberg.
57 *Use of Atropin Sulphate and Atropin Methylbromid in Diabetes Mellitus. (Einfluss von Atropinsulfat und Atropinmethyl-bromat "Merck" auf die Zuckerausscheidung bei Diabetes mellitus.) J. Rudisch (New York).

55. Practically the same article was published in the *University of Pennsylvania Medical Bulletin*, May, 1909, and abstracted in THE JOURNAL, July 3, 1909, page 78.

57. A similar article by this author was abstracted in THE JOURNAL, July 10, 1909, page 143.

Beiträge zur klinischen Chirurgie, Tübingen

July, LXIV, No. 1, pp. 1-279

58 Hernia of the Cecal Recess (Eine neue pericoecale Hernie. die Hernie des Recessus coecalis.) A. Reich.
59 *Surgical Treatment of Retropharyngeal Abscess. F. Rösling.
60 *Experiences with Spinal Anesthesia in 600 Cases. (600 Lumbalanästhesien.) Meissner.
61 Isolated Fracture of the Semilunar Bone. (Der isolierte Bruch des Mondbeines.) H. Finsterer.
62 Transplantation of Bone to Remedy Defects in Long Bones. (Freie Knochentransplantation zur Deckung von Defekten langer Röhrenknochen.) [illegible]
63 Congenital Angioma in [illegible] in Bony Frame of Face. (Zur [illegible] ...en des Gesichtsschädels bei angeborener Angiombildung.) W. Wolf.

22 Use of Thorium and Radium in Some Diseases of Pharynx and Larynx. L. M. Chesney.
23 The Prophylaxis of Aphasia. F. C. Coley.
24 Adventures with a Curette. R. Watson.

15. Chronic Ulceration of Rectum.—Power reports 9 cases—3 of ulcerative colitis, examples of the condition known as sporadic ulcerative colitis, which is an infective inflammation attacking all parts of the large intestine. It is not identical with dysentery either of the bacillary or amebic type, nor is it quite the same disease as asylum dysentery. There was no cause localizing the inflammation to the rectum in the first and third cases, except, perhaps, the changes occurring in connection with recent parturition. In the second case, the rectum had already been the seat of chronic inflammation, as was shown by the fistulas, and the patient was also suffering from Bright's disease. There were 3 cases of ulcerative colitis occurring in patients who had acquired syphilis. There was one case of chronic ulceration occurring after labor, one case each of anorectal syphiloma, gummatous ulceration, and malignant ulceration of the rectum. Power classifies chronic ulceration of the rectum as follows:

- Chronic ulceration of rectum.
  - Ulcerative colitis
    - *Dysenteric.*
      - Sporadic.
      - Epidemic.
    - "Syphilitic."
    - Tuberculous.
    - Secondary to pelvic cellulitis.
  - Syphilitic.
    - Gummatous.
    - Anorectal syphiloma.
  - Tuberculous.
  - Carcinomatous.

Considerable stress is laid on the part played by infective colitis in producing chronic inflammation of the rectum.

18. Treatment of Fractures.—Pringle favors the extension method in the treatment of fractures of long bone. In his experience the results obtained surpass those by any other method of treatment, operative or non-operative.

Australasian Medical Gazette, Sydney

July

25 Protection of our Frontiers from Invasion of Disease. J. H. L. Cumpston.
26 Prevention of Parasitic Anemia. A. J. Turner.
27 Ankylostomiasis Among Queensland Children. A. G. Salter.
28 Enlarged Prostate. W. Chisholm.
29 Successful Case of Strangulated Umbilical Hernia with Resection of a Piece of Ileum. C. E. Todd.
30 *Anesthetics. A. Aspinall.
31 *Heterophoria as a Cause of Intractable Headache. E. T. Smith.
32 Complicated Pelvic Hematocele, Successfully Treated by Hyperemia. M. A. Schalit.
33 Heart Block in Acute Rheumatism. J. M. Gill.

30. Anesthetics.—Aspinall presents a most admirable review of the history of anesthesia and discusses tersely, but well, the use and indications for the anesthetics now in use. In closing he emphasizes the following points: 1. Every breath taken by the patient should be felt or heard by the anesthetist. 2. The color should be continually observed and an explanation sought for any change in it. 3. The pulse should be felt regularly. 4. If in doubt as to the depth of anesthesia present, temporarily without the anesthetic. 5. Never attempt to hurry the administration, and do everything quietly, so as not to attract the surgeon's attention and cause anxiety on his part. 6. Have everything ready in case of emergency. 7. Do not be impatient during the induction of anesthesia. 8. Watch the patient and not the operation.

31. Heterophoria as Cause of Intractable Headache.—A cautious central tenotomy of the right superior rectus was performed by Smith in this case. The day after the operation, for the first time for twelve months, the patient awoke free from headache. But it recurred next day and remained. A month later she had only one degree of hyperphoria, instead of two degrees. As the pain persisted, Smith did a small central tenotomy of the left inferior rectus. This, from the day after the operation till the present time, completely removed the headache, but gave rise to constant diplopia, which she had never been conscious of before, and an obvious vertical squint. To shut out the persistent second image, she kept her left eye generally closed (*previously, closing one eye* did not relieve the headache at all), and she became a bright cheerful woman, doing her housework and resuming her sewing. Subsequently, Smith remedied the vertical squint by a carefully performed advancement of the left inferior rectus, which, fortunately, just hit the happy medium and resulted in orthophoria, binocular single vision, and happiness.

British Journal of Children's Diseases, London

August

34 Congenital Heart Affections, Especially in Relation to Diagnosis. G. Carpenter.
35 *Treatment of Advanced Cases of Acute Diaphysitis. H. M. W. Gray.
36 *Acute Meningitis in Children. F. Tresilian.

35. Treatment of Acute Diaphysitis.—The case reported by Gray was a typical acute suppurative diaphysitis or osteomyelitis of the upper half of the shaft of the left tibia. The upper epiphysis and neighboring knee-joint were, so far as could be ascertained, free from disease. An incision, slightly internal to the crest of the tibia, was made from the upper limit to three-fourths of an inch below the lower limit of denudation of periosteum, down to the bone in its whole extent. The subperiosteal cavity was washed out, first with peroxid of hydrogen (10 per cent.) and then with saline solution. The periosteum, corresponding in extent with the lower three-fourth of an inch of the incision, which was adherent to bone and healthy, was elevated off the bone, which was then chiselled across at the lower end of the incision. The upper half of the tibia was then easily lifted out of its periosteal bed, as it was only very loosely adherent to the epiphyseal cartilage. The cavity thus made was carefully washed out as before, dried, and packed lightly with sterile gauze wrung out of peroxid of hydrogen (3 per cent.). The opening of the medullary cavity of the remaining part of the tibia was previously smeared over with Beck's bismuth paste, so as to prevent any possibly infective material from penetrating to the healthy medullary cavity of the lower part of the bone. The limb was then enveloped in sterile dressings and a moulded splint applied (made of plaster-of-Paris bandages soaked in biniodid of mercury, 1 in 2,000 solution).

The temperature fell to normal in a few hours. Three days later the child was anesthetized again and the gauze removed. The cavity was found to be clean and dry, free from pus. The catgut sutures were tied. Bismuth paste which oozed out between the stitches was lightly wiped away and the skin was carefully sutured with fine catgut. Dressings were applied and the limb placed again in the plaster splint. Small sinuses formed, one at the upper and one at the lower end of the wound. Through the upper sinus the greater part of the bismuth paste was gradually pushed out—as the periosteal cavity became filled with "granulation tissue" and bone. The discharge was a thin, honey-like fluid. At no time was there an ordinary purulent discharge. The lower sinus was found to be due to the presence of a thin flake of necrosed bone, which separated and was extruded during the sixth month. At the end of a month the patient was able to walk freely without pain. Thirteen months after operation she had perfect use of the limb, had no discomfort of any kind, and on examination, apart from the scar, one could make out scarcely any abnormality of the bone. On careful measurement from the upper margin of the internal tuberosity to the tip of the internal malleolus it was found that the affected tibia is one-fourth of an inch shorter than the other.

36. Acute Meningitis.—Tresilian reports four cases: The first case was one of tuberculous meningitis, which began in a hemiplegic form. The second was an ordinary case of posterior basic meningitis in an infant, which left behind it the very unusual sequel of complete deafness only. The next case was a typical and severe one of acute cerebrospinal meningitis. The fourth was a case of posterior basic meningitis.

Journal of Obstetrics and Gynecology of British Empire, London

August

37 *Sarcoma of the Ovaries. F. A. L. Lockhart.
38 Fibromyomata Uteri. E. McDonald.
39 *Urinary Fistulas in Women: Prophylaxis and Treatment. R. Worrall.
40 Peritonitis as a Complication of Fibroids Especially in Association with Torsion of the Pedicle; Report of an Illustrative Case. J. McGibbon.
41 Ruptured Tubal Gestation Twice in the Same Tube: Normal Pregnancy Intervening. M. G. Pearson.

37. Ovarian Sarcoma.—Lockhart has 65 cases of ovarian tumors in which operation was done during 20 years, and of these, 14 were of malignant nature. These were divided as follows: Sarcomata: right ovary 3, left ovary 2, double 2. Carcinomata: mixed sarcoma and carcinoma 1, papilloma malignum 1.

39. Urinary Fistulas.—Worrall reports the following cases: (1) Vesicocervico-vaginal fistula, hemorrhage into bladder; (2) ureteral fistula; (3) vesicoutero-vaginal fistula; (4) vesicourethro-vaginal fistula; (5) vesicocervico-vaginal fistula; (6) very large fistulas, vesicocervico-vaginal.

Annales de Médecine et Chirurgie Infantiles, Paris

August 15, XIII, No. 16, pp. 541-576

42 *Pathogenesis of Rachitis. P. Hutinel.
43 *Defective and Perverted Thyroid Functioning in Children. L. Concetti.

42. Pathogenesis of Rachitis.—Hutinel reports research on the bone marrow, bones and cartilage, the conclusions being that the disturbances in rachitis are due to an evolutionary dystrophy affecting the least resistant tissues. During the first three or four months of life all the tissues suffer in case of defective assimilation. But, as the child grows, certain organs acquire greater resistance, while others feel more the influence of the nutritional derangement. These dystrophies are particularly important during periods of intense nutritional activity, that is, during the first two years and in adolescence.

43. Defective and Perverted Thyroid Functioning in Infants.—Concetti ascribes to thyroid insufficiency many of the phenomena noted in young infants, such as a tendency to obesity, to transient edema, cold feet and hands, scanty and brittle hair, vasomotor disturbances, vomiting, somnolency and slight resistance to infections. With artificial feeding, these signs become more pronounced, with eczema, urticaria, tardy dentition, etc. It seems evident that nurslings receive in mother's milk some of the products of the mother's thyroid functioning. The physiologic hypothyroidism of the new-born may assume pathologic proportions; any derangement in thyroid functioning on the part of the mother or wet-nurse may lead to severe symptoms of hypothyroidism in the infant. In several instances in his experience infants became myxedematous when the mothers had goiter. In other cases, the healthy infants of healthy parents became myxedematous when they had a wet-nurse with goiter. All these children were cured with thyroid treatment and change of nurse. Experimental research with goats has confirmed, he asserts, the fact of transmission of thyroid secretion by the placenta and in the milk. He is convinced that in many cases the symptoms of thyroid insufficiency in infants have escaped detection or have been attributed to other causes or grouped in other syndromes. There is a promising field for study, he says, in this infantile disthyroidism and the prompt change for the better under thyroid treatment. Typical, complete forms are rare, but the *formes frustes* are encountered on every hand and have been hitherto classed as "lymphatism," "neuroarthritism," atrophy, rachitis, etc. They all show notable improvement and sometimes a rapid cure under correct thyroid treatment, as he has witnessed in many cases. His pupils are now examining infants in crèches, asylums, schools and dispensaries for signs suspicious of defective thyroid functioning, and are instituting thyroid treatment when possible. With the Wassermann test an excess or lack of thyroid secretion can be determined in animals, but the findings are less decisive in the clinic. In some cases the infants seem to be suffering from excessive thyroid functioning, or the deficiency and excess may alternate. The thyroid treatment should be given with caution. He does not give the details of his dosage, but says that he makes a point of treating the nursing mother also.

Archives des Maladies du Cœur, etc., Paris

August, II, No. 8, pp. 449-496

44 *Syphilitic Phlebitis. C. Achard and R. Demanche.
45 The Blood in Lead Colic. (Des altérations des globules rouges au cours de la colique de plomb.) N. Fiessinger and A. Peigney.

44. Syphilitic Phlebitis.—Achard's patient, a waiter 20 years old, presented swelling and pain in the left knee simulating phlegmasia, of abrupt onset, but explained by a history of possible syphilitic infection nearly three months before. There were also evidences of roseola and of secondary syphilitic nephritis, with pronounced albuminuria and edema. Under mercurial treatment the phlebitis and the edema subsided completely, but some albuminuria still persisted when the patient left the hospital about the seventh week.

Presse Médicale, Paris

August 25, XVII, No. 68, pp. 601-608

46 The Karyogamic Theory of the Origin of Cancer. (Problème du cancer et la biologie générale.) L. Hallion.
47 Cerebrospinal Meningitis. (Quelques particularités bactériologiques et cytologiques dans la méningite cérébro-spinale.) G. Fischer and P Scherrer.
48 Tenotomy of Achilles Tendon. V. Veau.

August 28, No. 69, pp. 609-616

49 Apparatus or Electricity in Treatment of Peripheral Muscular Atrophy. [illegible] trothérapie dans le traitement [illegible] périphériques.) E. Rochard and [illegible]
50 Pathogenesis of Phlegmons of the Hand. L. Imbert.

September 1, No. 70, pp. 617-624

51 Hysterectomy by Anterior Section of Cervix. (Quelques mots en faveur de l'hystérectomie par décollation antérieure.) T. de Martel.

Semaine Médicale, Paris

September 1, XXIX, No. 35, pp. 409-420

52 Combinations of Drugs in Therapeutics. (Des synergies médicamenteuses et de leur utilisation systématique en clinique.) M. Roch.
53 *Guaiac Test for Blood in Helminthiasis. (Réaction de Weber et trichocéphale.) J. Guiart and C. Garin.

53. The Guaiac Blood Test and Helminthiasis.—Guiart found the Weber reaction positive in thirteen cases in which the eggs of the trichocephalus were found in the stools, and eggs were never found without this positive reaction occurring sooner or later. The patients were on a diet that excluded all source of error from this cause, so that the conclusion seems inevitable that the trichocephalus induces hemorrhage in the intestines, the presence of occult blood being revealed by this sensitive test. This is of considerable practical importance, as the symptomatic value of the test thus depends on whether the patient is free from the trichocephalus or not. The findings are reliable only when the stool gives negative microscopic findings in regard to this parasite. This test for occult blood is frequently accepted as decisive for cancer of the stomach or intestine, but its differential value is annulled if the eggs of the trichocephalus are found in the stools, and statistics show, he says, that this parasite occurs in about 50 per cent. of the population. He has not found the reaction so constantly in case of presence of ascarides. The Weber test should never be accepted as decisive in case of positive findings unless the stools are examined under the microscope at the same time.

Archiv für Verdauungs-Krankheiten, Berlin

August, XV, No. 4, pp. 443-555

54 Importance of Dietetic and Therapeutic Measures even for Nervous Functional Dyspepsia. A. Schule.
55 *Value of Salomon Test in Diagnosis of Stomach Carcinoma. [illegible] Probe für die Frühdiagnose des [illegible] Goodman (Philadelphia).
56 Yc [illegible] (Kritik des Yoghurt und die [illegible] vendung.) E. Rosenberg.
57 *Us [illegible] l Atropin Methylbromid in Dia- [illegible] von Atropinsulfat und Atropin- [illegible] die Zuckerausscheidung bei Dia- [illegible] (New York).

55. Practically the same article was published in the *University of Pennsylvania Medical Bulletin*, May, 1909, and abstracted in THE JOURNAL, July 3, 1909, page 78.

57. A similar article by this author was abstracted in THE JOURNAL, July 10, 1909, page 143.

Beiträge zur klinischen Chirurgie, Tübingen

July, LXIV, No. 1, pp. 1-279

58 Hernia of the Cecal Recess. (Eine neue pericoecale Hernie, die Hernie des Recessus coecalis.) A. Reich.
59 *Surgical Treatment of Retropharyngeal Abscess. F. Rösling.
60 *Experiences with Spinal Anesthesia in 600 Cases. (600 Lumbalanästhesien.) Meissner
61 Isolated Fracture of the Semilunar Bone. (Der isolierte Bruch des Mondbeines.) H. Finsterer.
62 Transplantation of Bone to Remedy Defects in Long Bones. (Freie Knochentransplantation zur Deckung von Defekten langer Röhrenknochen.) H. Frankenstein.
63 Congenital Angioma in Relation to Deformities in Bony Frame of Face. (Zur Kasuistik der Deformitäten des Gesichtsschädels bei angeborener Angiombildung.) W. Wolf.

64 Acute Yellow Atrophy of Liver Consecutive to Suppurative Disease in Abdominal Cavity. (Die akute gelbe Leberatrophie als Folgeerscheinung eitriger Erkrankungen der Bauchhöhle.) J. Amberger.
65 Origin of Congenital Dislocation of Hip Joint. (Zur Lehre von der Entstehung der angeborenen Hüftverrenkung.) P. Graf.
66 *External and Internal Secretion Viewed by the Light of Diffuse Incorporated Stain. (Die äussere und innere Sekretion des gesunden und kranken Organismus im Lichte der "vitalen Färbung.") E. E. Goldmann.
67 Nail Extension in Treatment of Fractures. (Ueber Nagelextension.) M. Kirschner.

59. **Retropharyngeal Abscess.**—Rösling epitomizes 17 cases in which operation was by the Chiene technic, and extols its advantages. Recovery was prompt and complete in all but 3 cases in which the patients succumbed to the progress of advanced tuberculosis. He compares the outcome with this technic in the hands of various surgeons with the outcome when the Burkhardt or other technics were followed, the results sustaining his assertions, he declares, in regard to the superiority of the Chiene method.

60. **Spinal Anesthesia in 600 Cases.**—Meissner remarks that the recent improvements in the methods of local anesthesia will restrict the field of spinal anesthesia more and more as, even in the hands of experts, it cannot be regarded as free from danger, although it has proved useful when strictly indicated. In 15 of the 600 cases in which spinal anesthesia has been used at von Bruns' clinic at Tübingen, the spine was deformed, the ligaments ossified or the patient was obese to such an extent that it proved impossible to introduce the needle. By using minute amounts of the anesthetic and refraining from raising the pelvis, the anesthesia proved sufficient for operations below the umbilicus, free from threatening mishaps while the by-effects and after-effects were much reduced.

66. **Study of the Vital Processes by Incorporation of a Stain.**—Goldmann injected white mice subcutaneously with 1 c.c. of a 1 per cent. solution of pyrrhol blue and obtained most interesting findings with this "vital staining" which did not seem to injure the health of the animals in the least, although the illustrations show that they had "the blues" to an unprecedented extent. The stain was attracted to different tissues in different ways, and revealed vital processes of internal secretion, as well as external, throwing light on many hitherto obscure points, especially in the gravid animals. One of the facts learned was the presence of a certain granulated cell in the connective-tissue cell wherever important metabolic processes were taking place. This cell shares with the stellate liver cells and some others the property of taking up and binding substances dissolved in the blood and holding them a long time.

Berliner klinische Wochenschrift, Berlin

August 30, XLVI, No. 35, pp. 1597-1636

68 Surgical Treatment of Tuberculosis of Nasal Septum. (Behandlung der Nasenscheidewandtuberkulose.) A. Onodi.
69 Case of Tumor in Third Ventricle of the Brain. (Fall von Hirntumor.) A. Piazza.
70 Resection of Right and Part of Left Upper Jaw. (Resektion des Oberkiefers.) M. Albricht.
71 New Spectra of the Blood. A. de Dominicis.
72 Central Dislocation of Hip Joint. A. Heschelin and E. Schapiro.
73 *Threatening Collapse after Injection of Diphtheria Antitoxin. (Gefahrdrohende Dyspnoe mit Kollaps nach Seruminjektion.) A. de Bessche.
74 Hemolysis with Paroxysmal Hemoglobinuria. A. A. Hymans van den Bergh.
75 Improved Technic for Wassermann Reaction. J. A. Finkelstein.

73. **Threatening Collapse After Injection of Diphtheria Antitoxin.**—A young physician describes the collapse in his own person. It occurred in less than half an hour after a prophylactic injection of 1,000 units of antitoxin. The threatening symptoms lasted nearly three hours and then gradually subsided so that he had quite recovered by the next day. He had noticed from childhood that the smell of horses produced discomfort and symptoms suggesting hay fever; they came on when he went into a stable or was driving. Cows and other domestic animals did not have this effect, and he never had hay fever or asthma. It seems evident that the collapse was due to a special hypersusceptibility to horse serum, and this view is confirmed by the fact that a kind of immunity persisted for three months afterward and then gradually subsided.

Correspondenz-Blatt für Schweizer Aerzte, Basle

August 15, XXXIX, No. 16, pp. 545-576

76 *Sahli's Desmoid Reaction as Practical Test of Stomach Functioning and for Control of Therapeutic Measures. R. Nadler.
77 *Treatment of Asphyxia in New-born Infant. (Ein neues Verfahren bei der Behandlung des Scheintodes der Neugeborenen.) Volland.

September 1, No 17, pp. 577-616

78 *Aims, Means and Problems of Research on Endemic Goiter. (Erforschung des endemischen Kropfes.) W. Kolle.
79 Defects in Skull of New-born Infants. (Wesen und Bedeutung der kraniellen Ossifikationsdefekte Neugeborener.) E. Wieland.
80 Masked Chlorosis. (Ueber "larvierte" Chlorose.) F. Seiler.

76. **Simple, Practicable Tests of Stomach Functioning.**—Nadler extols the simplicity, reliability and diagnostic importance of Sahli's desmoid test of stomach functioning; this is merely the ingestion of a pill of methylene blue around which is drawn tight a tiny square of thin rubber tissue tied with catgut. As the catgut dissolves in the stomach, the rubber springs open and throws out the pill. A positive reaction indicates that the gastric juice is normal or with an excess of acid or pepsin or both. A negative reaction indicates little or no acid or pepsin or else excessive motility. He gives the patient the blue pill tied up in its bag, and also four half-ounce bottles, the corks marked, respectively, I, II, III, IV. The pill is taken with the noon meal and the urine, voided at three-hour intervals thereafter, is poured in turn into the first three bottles, and the urine voided next morning in the fourth. After this the patient eats a Boas-Ewald test breakfast at home, and then with the four bottles he returns to the doctor's office. If the first bottle shows a positive reaction, the gastric juice is normal or hyperacid; the latter condition is diagnosed by the subsidence of disturbances on administration of an alkali. If the reaction is positive only in the second or third bottles, the acidity is not excessive and an alkali will not do so good service as hydrochloric acid or pepsin. In case of a negative reaction he siphons out the stomach content if the patient consents; if not, he gives hydrochloric acid and a pill of iodoform. A positive reaction in three or six hours indicates merely lack of hydrochloric acid. If the reaction is still negative, he gives pepsin with the hydrochloric acid and a methylene blue pill. The urine is always green after this, unless there is excessive motility, and if the gastric disturbances have then subsided the assumption is that the trouble is merely a lack of pepsin or excessive motility. If the gastric disturbances persist, he omits the hydrochloric acid; if there is merely a lack of pepsin, the urine next day will give the iodin reaction. If the disturbances still continue, notwithstanding the ingestion of hydrochloric acid and pepsin, the trouble may be due to hypermotility, and the salol test will decide the matter, especially with Huber's modification. With this technic the patients can see for themselves the secretory anomalies and therapeutic results, and the whole procedure has a tranquilizing effect in nervous gastric disturbances.

77. **Simplified Method of Treating Asphyxia in New-Born Infants.**—Volland had just delivered a woman after difficult labor and the child was in livid asphyxia. There was no one to assist him, and he had to act quickly and alone. Without attempting to cut the cord he set the infant up against the inside of the mother's thigh and took hold of it as for Schultze swinging, but he did not lift the child more than just enough to let it hang by its whole weight from his hands and then set it down again, pressing with his thumbs, the mother's thigh meanwhile offering the counter support for the pressure, which simulated natural expiration. He repeated this lifting and pressure rhythmically and soon heard the child's cry. He then attended to the umbilical cord. The advantages of this procedure are that no precious time is lost, the child is not chilled, while the expiration rhythm can be made to correspond with the natural tempo and the maneuver is free from the dangers of Schultze swinging and other technics, while it is much less fatiguing for the obstetrician.

78. **Endemic Goiter.**—Kolle states that 6 or 7 per cent. of the recruits in the Swiss army each year present a goiter, and that the proportion of cretins and goitrous individuals is about as high in the Alpine regions surrounding Switzerland

proper. In certain towns in Switzerland from 80 to 90 per cent. of the children were found goitrous in 1908, the same proportion that was recorded in 1886. He adds that the thyroid is always found unusually large in the cadavers in Berne and other foci of endemic goiter, and the same is observed in domestic animals, especially in dogs. The evidence seems to incriminate the water, he reiterates, either as the bearer of some living virus or some chemical substance affecting the thyroid gland injuriously. In two endemic foci the tendency to goiter seemed to disappear when a new source for the water supply was utilized. He urges the medical profession to pay special attention to the influence in this line of boiling the water. Laborious research to isolate some special substance from the goitrous thyroid or the stools or to immunize against goiter has proved disappointing to date, as also all experiments for direct transmission of goiter to animals, but this research has cleared the way for future work, and he urges all the members of the profession in Switzerland to preach the necessity for individual prophylaxis by boiling or filtering the drinking water and for public works to provide an unobjectionable water supply.

Deutsche medizinische Wochenschrift, Berlin

August 26, XXXV, No. 34, pp. 1463-1504

81 *Pathology and Treatment of Disturbances in the Circulation in the Mesenteric Vessels. (Zirkulationsstörungen in den Mesenterialgefässen.) A. Neumann.
82 *Test for Blood. (Verfahren zum Nachweise von Blut.) J. v. Kossa.
83 *Tests for Bile Pigment in Urine. (Neue Gallenfarbstoffreaktionen im Harn.) A. v. Torday and A. Klier.
84 *[illegible] Disturbances. (Beitrag zur [illegible] S. v. Ritook.
85 *[illegible] o Curvature of the Spine? (Zur Frage der lordotischen Albuminurie.) B. Vas.
86 Treatment of Gunshot Wounds of the Lungs. (Behandlung der Schussverletzungen der Lungen.) S. Sandor.
87 True Congenital Homosexuality and Pseudohomosexuality. P. Nacke.
88 *Operative Treatment of Hay Fever. (Operative Behandlung des Heufiebers.) E. Blos.
89 Improved Technic for the Wassermann Reaction. N. Popowski.
90 Immunization of Rats and Mice against Rabies with Normal Nerve Substance, and Action of Carbolic Acid on Rabies Virus. C. Fermi.

81. **Thrombosis in the Mesenteric Vessels.**—Neumann has encountered five cases of a syndrome diagnosed as due to embolism or thrombosis of the mesenteric arteries or veins. Only one of his patients presented the entire quintette of signs that point to this affection, namely, a source for the embolism; abdominal colic; functional disturbance in the digestive tract; tympanites and palpation of bunches between the sheets of the mesentery which can be only engorged blood-vessels. A source for the embolism or a predisposition to thrombosis was discovered in 58 per cent. of 96 cases on record; colic was observed in 84 per cent.; functional intestinal disturbances in 86 per cent., while the complete picture of mechanical ileus was observed in only 14 per cent. of 63 cases in which the mesenteric arteries were obstructed and in 56 per cent. of the 31 cases in which the veins were involved. Admixture of blood in stools or vomit was observed in half the cases. In fully 75 per cent. of the cases only 3 of the above symptoms were evident. In one of his personal cases an anemic infarct was the cause of the trouble and this is the sixth case on record in which recovery followed resection of the part of the intestine involved. In 2 other patients, the presumptive diagnosis of obstruction of mesenteric vessels was shown to be erroneous at the operation. In treatment it is well to bear in mind that although in rare cases the intestinal infarct may be spontaneously absorbed, yet the serious secondary disturbances justify a prompt laparotomy in every case in which obstruction of the mesenteric vessels is suspected. He advises resection with primary union of the stumps, even if a long stretch has to be removed. He resected 9 feet of small intestine in a youth eight years ago, on account of volvulus, and the patient is still in good health. Extensive resection has as good prospects with mesenteric circulatory disturbances as with volvulus.

82. **Test for Blood.**—Kossa states that the technic which he describes is very sensitive, surpassing other tests in this respect, while it is simple and rapid. It is based on the principle that blood in an extremely diluted watery solution can be flaked out if some substance is added which reduces the solubility of blood in water. If, for example, 5 c.c. of defibrinated dog blood is mixed with 10 liters of distilled water it forms a 5 to 10,000 solution. To 10 c.c. of this solution 10 c.c. of 90 per cent. alcohol is added and the two fluids are mixed by gently swinging the test-tube, not shaking it; 5 c.c. of chloroform is then added and mixed in this same way. At the junction of the water and chloroform the blood shows as a precipitate of small red flakes. They show up better against a white background. The test is modified a little for urine; 10 c.c. of urine is diluted with the same amount of distilled water, then mixed with 5 c.c. of 90 per cent. alcohol; 5 c.c. of chloroform is then added and the whole is mixed by gently swinging the tube. It is then set aside to settle. If there is much blood a pink ring forms at the junction of the fluids. If not the supernatant fluid is decanted and a few more cubic centimeters of alcohol are added, when the pink flakes of blood become more apparent. If there is still doubt as to the outcome, the supernatant fluid is again decanted and a little diluted potash and one or two drops of yellow ammonium sulphid are added and the fluid is examined with the spectroscope. The lines show up better if the test-tube is held over a white background and the fluid examined from above, vertically. Any albumin present may flake out, but it is not red, and the physiologic elements of the urine are *not* precipitated.

83. **Bile Pigment Reaction in the Urine.**—Torday states that in examining the gastric juice of a jaundiced patient he obtained a red discoloration reaction with methyl violet instead of the expected blue stain of free hydrochloric acid. Study of this reaction shows that it is the result of admixture of bile pigment. He has utilized this reaction as a very sensitive test for the presence of bile pigment, especially in the urine. Comparison of this test with others in vogue showed that it gave positive findings with such minute proportions of bile pigment in the urine that the other tests were negative.

84. **Functional Diagnosis of the Heart Action.**—Ritook here describes comparative tests of the heart functioning by the Strasburger and v. Recklinghausen technics and v. Koranyi's method. The latter is based on the fact that the composition of the urine is influenced by the rapidity of the circulation. When the circulation becomes sluggish, as in case of failing compensation of heart defects, the elimination of chlorids suffers first and most, and when the circulation starts up again the elimination of chlorids increases first and most rapidly. As the freezing-point of the urine is the measure of the molecular concentration, the freezing-point divided by the chlorid content gives a quotient which rises and falls as the circulation is sluggish or rapid. The careful application of these methods reported confirms the value of the Koranyi quotient as an index of the functional capacity of the heart, especially when the person is put on a test regimen: supper at 6 p. m.; urine voided at 12 and again at 6 a. m., when 100 gm. of milk is ingested and urine is again voided at intervals of 90 minutes. Examination of the different portions of urine under these conditions gives a uniform basis for comparison.

85. **Orthostatic Albuminuria.**—Vas has examined 150 girls between the ages of 9 and 14 to determine the influence of curvature of the spine on orthostatic albuminuria. His findings confirm those of Jehle, mentioned in The Journal, Feb. 27, 1909, page 740, except they show that curvature of the spine is not the exclusive cause of orthostatic albuminuria, although it is an important factor in many cases by its interference with the circulation in the kidneys.

88. **Operative Treatment of Hay Fever.**—Blos reports three cases in which he cured the tendency to hay fever by resecting the anterior ethmoidal nerve on both sides to induce permanent anesthesia of the mucosa of the anterior part of the nose. The nerve was resected under chloroform or with local anesthesia plus morphin or with local anesthesia alone.

Fortschritte der Medizin, Leipsic

July 20, XXVII, No. 20, pp. 753-784

91 Mongoloid Idiocy. Meltzer.

August 10, No. 22, pp. 817-864

92 *Pathogenesis of Rachitis. P. Sittler.

64 Acute Yellow Atrophy of Liver Consecutive to Suppurative Disease in Abdominal Cavity. (Die akute gelbe Leberatrophie als Folgeerscheinung eitriger Erkrankungen der Bauchhöhle.) J. Amberger.
65 Origin of Congenital Dislocation of Hip Joint. (Zur Lehre von der Entstehung der angeborenen Hüftverrenkung.) P. Graf.
66 *External and Internal Secretion Viewed by the Light of Diffuse Incorporated Stain. (Die äussere und innere Sekretion des gesunden und kranken Organismus im Lichte der "vitalen Färbung.") E. E. Goldmann.
67 Nail Extension in Treatment of Fractures. (Ueber Nagelextension.) M. Kirschner.

59. **Retropharyngeal Abscess.**—Rösling epitomizes 17 cases in which operation was by the Chiene technic, and extols its advantages. Recovery was prompt and complete in all but 3 cases in which the patients succumbed to the progress of advanced tuberculosis. He compares the outcome with this technic in the hands of various surgeons with the outcome when the Burkhardt or other technics were followed, the results sustaining his assertions, he declares, in regard to the superiority of the Chiene method.

60. **Spinal Anesthesia in 600 Cases.**—Meissner remarks that the recent improvements in the methods of local anesthesia will restrict the field of spinal anesthesia more and more as, *even in the hands of experts, it cannot be regarded as free* from danger, although it has proved useful when strictly indicated. In 15 of the 600 cases in which spinal anesthesia has been used at von Bruns' clinic at Tübingen, the spine was deformed, the ligaments ossified or the patient was obese to such an extent that it proved impossible to introduce the needle. By using minute amounts of the anesthetic and refraining from raising the pelvis, the anesthesia proved sufficient for operations below the umbilicus, free from threatening mishaps while the by-effects and after-effects were much reduced.

66. **Study of the Vital Processes by Incorporation of a Stain.**—Goldmann injected white mice subcutaneously with 1 c.c. of a 1 per cent. solution of pyrrhol blue and obtained most interesting findings with this "vital staining" which did not seem to injure the health of the animals in the least, although the illustrations show that they had "the blues" to an unprecedented extent. The stain was attracted to different tissues in different ways, and revealed vital processes of internal secretion, as well as external, throwing light on many hitherto obscure points, especially in the gravid animals. One of the facts learned was the presence of a certain granulated cell in the connective-tissue cell wherever important metabolic processes were taking place. This cell shares with the stellate liver cells and some others the property of taking up and binding substances dissolved in the blood and holding them a long time.

Berliner klinische Wochenschrift, Berlin

August 30, XLVI, No. 35, pp. 1597-1636

68 Surgical Treatment of Tuberculosis of Nasal Septum. (Behandlung der Nasenscheidewandtuberkulose.) A. Onodi.
69 Case of Tumor in Third Ventricle of the Brain. (Fall von Hirntumor.) A. Piazza.
70 Resection of Right and Part of Left Upper Jaw. (Resektion des Oberkiefers.) M. Albricht.
71 New Spectra of the Blood. A. de Dominicis.
72 Central Dislocation of Hip Joint. A. Heschelin and E. Schapiro.
73 *Threatening Collapse after Injection of Diphtheria Antitoxin. (Gefahrdrohende Dyspnoe mit Kollaps nach Seruminjektion.) A. de Bessche.
74 Hemolysis with Paroxysmal Hemoglobinuria. A. A. Hymans van den Bergh.
75 Improved Technic for Wassermann Reaction. J. A. Finkelstein.

73. **Threatening Collapse After Injection of Diphtheria Antitoxin.**—A young physician describes the collapse in his own person. It occurred in less than half an hour after a prophylactic *injection of 1,000 units of antitoxin*. The threatening symptoms lasted nearly three hours and then gradually subsided so that he had quite recovered by the next day. He had noticed from childhood that the smell of horses produced discomfort and symptoms suggesting hay fever; they came on when he went into a stable or was driving. Cows and other domestic animals did not have this effect, and he never had hay fever or asthma. It seems evident that the collapse was due to a special hypersusceptibility to horse serum, and this view is confirmed by the fact that a kind of immunity persisted for three months afterward and then gradually subsided.

Correspondenz-Blatt fü

August 15, XXXIX

76 *Sahli's Desmoid Reaction a
tioning and for Control
ler.
77 *Treatment of Asphyxia in
fahren bei der Behandl
renen.) Volland.

September 1, N

78 *Aims, Means and Problem
(Erforschung des endemi
79 Defects in Skull of New-b
tung der kraniellen Ossi
Wieland.
80 Masked Chlorosis. (Ueber

76. **Simple, Practicable Tes**
Nadler extols the simplicity, reli
of Sahli's desmoid test of stom
the ingestion of a pill of m
drawn tight a tiny square of t
gut. As the catgut dissolve
springs open and throws out th
cates that the gastric juice is n
or pepsin or both. A negative
acid or pepsin or else excessive
the blue pill tied up in its bag
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taken with the noon meal and
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tles, and the urine voided next
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and then with the four bottl
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juice is normal or hyperacid; th
by the subsidence of disturba
alkali. If the reaction is positi
bottles, the acidity is not exces
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negative reaction he siphons ou
patient consents; if not, he giv
of iodoform. A positive reaction
merely lack of hydrochloric acid.
tive, he gives pepsin with the h
ene blue pill. The urine is al
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then subsided the assumption is
lack of pepsin or excessive mot
ances persist, he omits the hy
merely a lack of pepsin, the urin
reaction. If the disturbances st
the ingestion of hydrochloric acid
be due to hypermotility, and the s
ter, especially with Huber's mod
the patients can see for themsel
and therapeutic results, and the
quilizing effect in nervous gastric d

77. **Simplified Method of Treat**
Infants.—Volland had just delive
labor and the child was in livid as
to assist him, and he had to act q
attempting to cut the cord he set
inside of the mother's thigh and too
swinging, but he did not lift the ch
to let it hang by its whole weight
set it down again, pressing with
thigh meanwhile offering the counter
which simulated natural expiration.
and pressure rhythmically and soon
then attended to the umbilical cord.
procedure are that no precious time
chilled, while the expiration rhythm c
with the natural tempo and the m
dangers of Schultze swinging and o
much less fatiguing for the obstetrici

78. **Endemic Goiter.**—Kolle states
the recruits in the Swiss army eac
and that the proportion of cretins a
about as high in the Alpine regions

conditions in the intestines. A particle of stool on the object glass is mixed with the official compound solution of iodin and examined under the microscope. There is a distinct granulose reaction in the bacteria present when the digestion of starch or its absorption is interfered with. With a pancreatic affection the flora is strongly iodin positive. This iodin reaction is not only a more sensitive test for the digestion of carbohydrates than microscopic discoloration of the stool with iodin, but it also affords information in regard to the etiology and topography of various digestive disturbances, as he describes in detail.

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Zentralblatt für Chirurgie, Leipsic

August 28, XXXVI, No. 35, pp. 1193-1224

119 Improved Technic for Goiter Operations. (Die Knopflochverlagerung des Kropfrestes.) F. Hofmeister.
120 *Operative Mobilization of the Knee. (Operative Mobilisierung des Kniegelenks.) R. Klapp.

120. **Mobilization of Knee.**—Klapp declares that the problem of mobilizing the knee by an operation has not yet been effectually solved. Interposition of soft parts, after breaking up the ankylosis, mobilizes the knee, but does not make it stable. It should be capable of weight-bearing, and he thinks that this can best be accomplished by excising a wedge from the epiphysis of the femur. The wedge forms an angle of nearly 90 degrees, and is cut out entirely across the femur, as he shows in an illustration. The knee is bent beyond a right angle to the extreme limit and is held thus for a few minutes to correct the tension of the soft parts; then it is held at a right angle while the wedge is excised, the aim being to retain the connection with the tibia without modification. After the resection he nails the lower part to the upper stump, removing the nail six days later. A plaster cast is applied extending to the ankle. It is cut to the knee from the rear by the end of a week, to permit some movement, and is removed by the end of the second week. The movements are painful at first. The soft parts are passively stretched after the fourth week, not by massage, but by elastic traction; the patient sits on a chair and the leg is fastened by a rubber band to the leg of the chair. As no ligaments are severed there is not the least lateral movement. He has thus operated on two patients; one is already able to make active movements of more than 45 degrees, with a little larger passive range. The other has only recently been operated on.

Zentralblatt für Gynäkologie, Leipsic

August 28, XXXIII, No. 35, pp. 1217-1248

121 Differentiation of Hemolytic Streptococci. F. Fromme.
122 Acute Thyroidism as Complication after a Gynecologic Prolapse Operation.
123 *Pathology of ation to Wage-earning Work. eschlechtsorgane in Beziehung
124 Bilateral Her des Herpes zoster faciei und
125 *Syphilis Affecting the Kidneys during Pregnancy and Confinement. (Nierensyphilis in Schwangerschaft und Wochenbett.) M. Hirsch.

123. A similar article by this author was abstracted in THE JOURNAL, July 10, page 157.

125. **Renal Syphilis During Pregnancy and Confinement.**—Hirsch has recently reported three cases of renal syphilis, one being in a pregnant woman, and he here gives the details of this last case to warn obstetricians to be on the lookout for this syndrome. His patient was a woman of 35 with albuminuria and edematous swelling after the fifth month of her last pregnancy four years before. The kidney disturbances subsided for a time, but then there was pain in the right kidney region, with tenesmus but little urine. She grew thin and the kidney disturbances increased during her last pregnancy, which was complicated by hydrocephalus and ascites in the child. Notwithstanding the painful tumor in the right kidney region, there were no tube-casts, but merely epithelial cells in the urine. After delivery the patient was given potassium iodid for four weeks and all the symptoms disappeared; there has been no recurrence since. The husband recently applied for relief from violent headache in the vertex, which had resisted ordinary measures for five years. He also was given potassium iodid, and by the end of the fifth bottle was completely cured. Hirsch affirms therefore that a unilateral painful diffuse tumor in the kidney, with reduction in the amount of urine, but with large albumin content, speaks for a syphilitic affection demanding potassium iodid. It is well to bear this in mind in every case in which the ordinary treatment of assumed pregnancy kidney is not promptly effectual after delivery.

Gazzetta degli Ospedali e delle Cliniche, Milan

August 26, XXX, No. 102, pp. 1073-1080

126 Helminthiasis in Relation to Intestinal Tolerance. (L'elmintiasi in rapporto alla tolleranza intestinale.) T. Oreste.

Policlinico, Rome

August 29, XVI, No. 35, pp. 1093-1124

127 Malta Fever Infection in Palermo Goats. (L'infezione da "micrococcus melitensis" nelle capre di Palermo.) G. Palumbo.
128 Hemorrhage in Second Stage of Labor. (L'emorragia del secondamento.) G. Massimi.

August, Surgical Section, No. 8, pp. 333-380

129 *Surgery of the Pancreas. Connection between Pancreatitis and Gall-Stones. L. Cappelli. Commenced in No. 7.
130 Origin and Treatment of Anterior Luxation of the Astragalus. M. Fasano.
131 *Mental Manifestations with Tumors of the Brain and its Various Convolutions. (Studio clinico-statistico intorno alla manifestazioni psichiche nei tumore del cervello.) A. Osti. Commenced in No. 7.

August, Medical Section, No. 8, pp. 337-380

132 Experimental Research on Necrosis of the Aorta under Influence of Suprarenal o delle necrosi aortiche da adrenalina.
133 *Addison's Disease and th E. Leonardi.
134 *The Blood in Exophthalmic Goiter. (Ulteriore contributo alla ematologia del morbi di Flaiani-Basedow.) O. Ciuffini. Commenced in No. 7.
135 *Variations in Viscosity of Blood as Early Sign of Cardiac Insufficiency. (Sulla diagnosi precoce della insufficienza cardiaca.) C. Rubino.

129. **Surgery of the Pancreas.**—Cappelli emphasizes the importance of the lymphatic connection between the bile passages and the head of the pancreas. A group of lymphatics from the gall-bladder unite in the head of the pancreas. This demonstrates the importance in treatment of chronic pancreatitis of draining the hepatic duct after removal of the gall-bladder as the most rational means of curing the pancreatic trouble. In acute hemorrhagic pancreatitis the gravity of the affection is due to the necrotic destruction of the pancreas rather than to the hemorrhage. Chronic pancreatitis consecutive to gall-stones is a well-individualized morbid entity, and the cure after effectual drainage of the bile passages proves its dependence on the lithiasis. The operation is more successful the earlier it is done, before glycosuria reveals disturbance in the internal secretion.

131. **Mental Disturbances with Brain Tumors.**—Osti concludes his study of this subject with summaries of 54 cases from the literature to confirm his assertion that early psychic symptoms, predominating over all the other symptoms of a tumor, are of the greatest importance for the diagnosis of a tumor in the frontal lobe.

133. **Addison's Disease and the Internal Secretions.**—Leonardi reports the clinical and autopsy findings in three cases; the morbid changes in the suprarenals were accompanied by corresponding changes in the other glands with an internal secretion, the thyroid, hypophysis and spleen—all of these were hypertrophied with evidence of hyperfunctioning. He does not regard Addison's disease as due to a single gland but to several participating in the process. The first symptom in one patient was tremor of the arms, probably the result of professional exposure to electric currents, the man's work being done under an electric light of between 15,000 and 20,000 candle-power. The effect of the Roentgen rays on glandular organs suggests that the light here may have affect the cervical sympathetic, the thyroid and the hypophy

93 *Influence of the Ductless Glands on Immunity to Infections and Intoxications. (Einfluss der Blutdrüsen auf die Immunität gegen Infektionen und Intoxikationen.) Lorand. Commenced in No. 21.

92. **Pathogenesis of Rachitis.**—Sittler declares that rachitis occurs most frequently and in its severest form among bottle-fed children receiving too large amounts of carbohydrates, especially flour. Incipient rachitis can be cured by dropping the flour from the diet. The limits of injury from the flour and carbohydrates vary widely in different children.

93. **Influence of the Ductless Glands on Immunity to Infections and Intoxications.**—Lorand presents arguments to sustain the assumption that immunity to infections and intoxications depends on the possession of well-functioning ductless glands. They protect against factors that tend to shorten life, and may afford a more rational basis for the life expectancy in insurance. He cites as the most important causes that affect these glands and reduce the resistance to infections and intoxications, insufficient food, chilling, worry and sorrow, although all other factors detrimental to personal hygiene may cooperate. This assumption explains why children are so exposed to infectious diseases as these glands are yet imperfectly developed, while in the aged they have undergone senile modifications.

Medizinische Klinik, Berlin

August 22, V, No. 34, pp. 1255-1290

94 *Therapeutic Hypnosis. (Ueber Hypnosebehandlung.) T. Becker.
95 Resisting Power of Red Corpuscles and Action of Iron and Arsenic. (Ueber die "Resistenz" der roten Blutkörperchen und die Wirkung von Eisen und Arsen.) A. Strasser and F. Neumann.
96 Trional Poisoning. Weyert.
97 Favorable Experiences with Goldschmidt's Endoscopy of Posterior Urethra. J. Heller.
98 Operative Treatment of Deltoid Paralysis. K. Lengfellner and F. Frohse.
99 Treatment of Hyperhidrosis. K. Gerson.
100 Physiologic Action of Carbonated Baths. (Neue Untersuchungen über die physiologische Wirkung der Kohlensäuregasbäder.) L. Fellner.

94. **Therapeutic Hypnosis.**—Becker reports successful application of hypnosis in a number of cases, but he never applies this technic until after absolute failure of all other measures. He does not induce the hypnosis by sensory means, but sits near the patient who is reclining on a sofa in a quiet room, he places two fingers on each eye, and suggests tranquil sleep by telling the patient to lie quiet, relax and rest. In a short time the hypnotic sleep is complete, with catalepsy. This phase is the most propitious for therapeutic suggestion. He insists that there is no mystical explanation of the condition, the whole being a psychophysical process distinguished merely by the acceptance of the suggestion while the inhibiting critical counter-suggestions are not aroused. As functional morbid phenomena are frequently associated with organic disorders, and as these functional symptoms may be the cause of the main discomfort, the therapeutic hypnosis is thus liable to benefit even in the organic cases. The psychogenic phenomena once banished, the patient pays no attention to the persisting organic disturbances and may be restored to comparatively satisfactory health. This is frequently the explanation of the benefit from a trip to a health resort. He cites a few cases in detail to show his exact method and its results. Traumatic neurasthenia frequently resists this therapeutic hypnosis and may recur after a transient improvement; the outlook is more favorable in cases of dread and phobias, obsessions, and in sexual weakness and enuresis of psychogenic origin.

Münchener medizinische Wochenschrift

August 31, LVI, No. 35, pp. 1769-1824

101 Does the Side-Chain Theory Conflict with Actual Facts? (Ist die Ehrlichsche Seitenkettentheorie mit den tatsächlichen Verhältnissen vereinbar?) I. Bang and J. Forssman.
102 *Experimental Research to Provide Basis for Intra-arterial Anesthesia. (Experimentelle Grundlagen der arteriellen Anästhesie.) W. A. v. Oppel.
103 "Heart Defect Cells" in the Urine. (Ueber "Herzfehlerzellen" im Harne.) A. Bittorf.
104 Verrucous Form of Skin Tuberculosis in Coal Miners. (Ueber die bei Bergleuten in Kohlenbergwerken beobachtete verruköse Form der Hauttuberkulose.) J. Fabry.
105 *Gynecologic Peritonitis. W. Hagen.
106 Lactic Acid Therapy in Gastrointestinal and Metabolic Disturbances. (Wirkung des i
Milchsäurebazillus und die
Joghurtmilch bei Magen-, I
ungen.) A. Ohly.
107 Four Cases of Word Blindness in One Family. (4 Fälle von kongenitale Wortblindheit in einer Familie.) E. Plate.
108 Application of Cold to Back of Neck for Epistaxis. (Kälteapplikation auf den Nacken bei Nasenblutungen.) A. Jurasz.
109 Infant Consultations at Weissenburg. (Tätigkeit der Säuglingsfürsorgestelle in Weissenburg i. B. für das Jahr 1908.) H. Doerfler.
110 History of Introduction of Salicylic Acid into Treatment of Acute Articular Rheumatism. (Einführung der Salizylsäure in die Therapie des akuten Gelenkrheumatismus.) O. Meltzer.

102. **Intra-Arterial Anesthesia.**—Oppel is convinced that local anesthesia will finally require an intra-arterial technic before it can be regarded as perfected. As a basis for research in this line, he reports experiments with cocain injected into the abdominal aorta and the femoral and carotid arteries. His technic is somewhat similar to that of Bier's venous anesthesia, illustrated in The Journal, May 1, 1909, page 1466, only he made the injection into the artery instead of a vein, thus going with the blood stream instead of against it, and not having to contend with the valves in the veins. One fact has been learned from this research, namely, that the fatal dose is eight or ten times as large when injected into an artery. It is evident that the broader the area of ramification the lesser the toxicity as the cocain is neutralized in an extensive arteriocapillary field like that of the abdominal aorta. Another Russian, Goyanes, has already successfully applied the intra-arterial technic in two clinical cases.

105. **Gynecologic Peritonitis.**—Hagen calls attention to the peculiarly mild nature of peritonitis when it originates merely from a local chemico-toxic process, such as results from the gradual spread of the inflammation from a suppurative affection of the ovaries or tubes which has been established for some time. As the pus germs find their way through the lymphatics to the peritoneum, the latter is enabled to summon its defensive forces to repel this gradual invasion. The symptoms may be tempestuous at first, but the peritonitis is not suppurative; it is merely a typical chemical peritonitis, accompanied by tympanites, but without rigidity of the abdominal walls. Palpation of the genitalia is easy, but very painful; it early reveals the source of the trouble. Another aid in the differentiation of this comparatively mild form of gynecologic peritonitis is that the onset so often coincides with the menses when the infection is of gonorrheal origin. Complete repose and other appropriate measures for expectant treatment generally suffice. He was obliged to operate only in two out of the fifteen cases in this category in his experience during the last few years. In all other forms of peritonitis in women, puerperal, from perforation, etc., the ordinary surgical principles of prompt intervention prevail, but this local chemico-toxic process permits temporizing. The acute process subsides relatively soon and order returns, but relics of the extinct chemical inflammation are sometimes found, in operating for a pyosalpinx, in the form of multiple, serous peritoneal cysts or adhesions even in parts of the abdomen remote from the uterus.

Wiener klinische Wochenschrift, Vienna

August 26, XXII, No. 34, pp. 1171-1198

111 Antitrypsin Content of Infant's Serum. (Ueber den Antitrypsingehalt des Serums beim Säugling.) A. v. Reuss.
112 Heat from Electric Current in Treatment of Gonorrhea. (Verwendung von Thermopenetration in der Gonorrhoetherapie.) E. Eitner.
113 Etiologic Connection between Lupus Erythematodes and Tuberculosis. K. Ullmann.
114 Phenomena of Anaphylaxis in Psoriasis. (Ueberempfindlichkeit bei Psoriasis vulgaris.) J. Sellei.
115 *Clinical Importance of Iodin Reaction of the Intestinal Flora. (Klinische Bedeutung der Jodreaktion der Darmflora bei verschiedenen Verdauungskrankheiten.) A. Rodella.

September 2, No. 35, pp. 1199-1226

116 The Operability of a Rectal Carcinoma Dependent on its Clinical Course rather than on its Shape and Structure. A. Zinner.
117 *Present Status of Tendon Transplantation. (Der heutige Stand der Sehnentransplantation.) G. Hohmann.
118 Plexiform Angioma of the Brain plus Tuberculous Meningitis. (Zur Kasuistik kombinierter Hirnaffectionen.) F. Ranzel.

115. **The Diagnostic Iodin Reaction in the Intestinal Flora.**—Rodella refers to the staining reaction of bacteria in the stool which has been proposed as a means of differentiating them. His experience has shown that it is of little value for differentiating species, but that it is important as an index of

conditions in the intestines. A particle of stool on the object glass is mixed with the official compound solution of iodin and examined under the microscope. There is a distinct granulose reaction in the bacteria present when the digestion of starch or its absorption is interfered with. With a pancreatic affection the flora is strongly iodin positive. This iodin reaction is not only a more sensitive test for the digestion of carbohydrates than microscopic discoloration of the stool with iodin, but it also affords information in regard to the etiology and topography of various digestive disturbances, as he describes in detail.

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Zentralblatt für Chirurgie, Leipsic

August 28, XXXVI, No. 35, pp. 1193-1224

119 Improved Technic for Goiter Operations. (Die Knopflochverlagerung des Kropfrestes.) F. Hofmeister.
120 *Operative Mobilization of the Knee. (Operative Mobilisierung des Kniegelenks.) R. Klapp.

120. **Mobilization of Knee.**—Klapp declares that the problem of mobilizing the knee by an operation has not yet been effectually solved. Interposition of soft parts, after breaking up the ankylosis, mobilizes the knee, but does not make it stable. It should be capable of weight-bearing, and he thinks that this can best be accomplished by excising a wedge from the epiphysis of the femur. The wedge forms an angle of nearly 90 degrees, and is cut out entirely across the femur, as he shows in an illustration. The knee is bent beyond a right angle to the extreme limit and is held thus for a few minutes to correct the tension of the soft parts; then it is held at a right angle while the wedge is excised, the aim being to retain the connection with the tibia without modification. After the resection he nails the lower part to the upper stump, removing the nail six days later. A plaster cast is applied extending to the ankle. It is cut to the knee from the rear by the end of a week, to permit some movement, and is removed by the end of the second week. The movements are painful at first. The soft parts are passively stretched after the fourth week, not by massage, but by elastic traction; the patient sits on a chair and the leg is fastened by a rubber band to the leg of the chair. As no ligaments are severed there is not the least lateral movement. He has thus operated on two patients; one is already able to make active movements of more than 45 degrees, with a little larger passive range. The other has only recently been operated on.

Zentralblatt für Gynäkologie, Leipsic

August 28, XXXIII, No. 35, pp. 1217-1248

121 Differentiation of Hemolytic Streptococci. F. Fromme.
122 Acute Thyroidism as Complication after a Gynecologic Prolapse Operation. K. Himmelheber.
123 *Pathology of Female Sexual Organs in Relation to Wage-earning Work. (Pathologie der weiblichen Geschlechtsorgane in Beziehung zur Arbeit.) L. M. Bossi.
124 Bilateral Herpes Zoster. (Doppelseitigkeit des Herpes zoster faciei und der Fall Kalb.) Kocks.
125 *Syphilis Affecting the Kidneys during Pregnancy and Confinement. (Nierensyphilis in Schwangerschaft und Wochenbett.) M. Hirsch.

123. A similar article by this author was abstracted in The Journal, July 10, page 157.

125. **Renal Syphilis During Pregnancy and Confinement.**—Hirsch has recently reported three cases of renal syphilis, one being in a pregnant woman, and he here gives the details of this last case to warn obstetricians to be on the lookout for this syndrome. His patient was a woman of 35 with albuminuria and edematous swelling after the fifth month of her last pregnancy four years before. The kidney disturbances subsided for a time, but then there was pain in the right kidney region, with tenesmus but little urine. She grew thin and the kidney disturbances increased during her last pregnancy, which was complicated by hydrocephalus and ascites in the child. Notwithstanding the painful tumor in the right kidney region, there were no tube-casts, but merely epithelial cells in the urine. After delivery the patient was given potassium iodid for four weeks and all the symptoms disappeared; there has been no recurrence since. The husband recently applied for relief from violent headache in the vertex, which had resisted ordinary measures for five years. He also was given potassium iodid, and by the end of the fifth bottle was completely cured. Hirsch affirms therefore that a unilateral painful diffuse tumor in the kidney, with reduction in the amount of urine, but with large albumin content, speaks for a syphilitic affection demanding potassium iodid. It is well to bear this in mind in every case in which the ordinary treatment of assumed pregnancy kidney is not promptly effectual after delivery.

Gazzetta degli Ospedali e delle Cliniche, Milan

August 26, XXX, No. 102, pp. 1073-1080

126 Helminthiasis in Relation to Intestinal Tolerance. (L'elmintiasi in rapporto alla tolleranza intestinale.) T. Oreste.

Policlinico, Rome

August 29, XVI, No. 35, pp. 1093-1124

127 Malta Fever Infection in Palermo Goats. (L'infezione da "micrococcus melitensis" nelle capre di Palermo.) G. Palumbo.
128 Hemorrhage in Second Stage of Labor. (L'emorragia del secondamento.) G. Massimi.

August, Surgical Section, No. 8, pp. 333-380

129 *Surgery of the Pancreas. Connection between Pancreatitis and Gall-Stones. L. Cappelli. Commenced in No. 7.
130 Origin and Treatment of Anterior Luxation of the Astragalus. M. Fasano.
131 *Mental Manifestations with Tumors of the Brain and its Various Convolutions. (Studio clinico-statistico intorno alla manifestazioni psichiche nei tumore del cervello.) A. Osti. Commenced in No. 7.

August, Medical Section, No. 8, pp. 337-380

132 Experimental Research on Necrosis of the Aorta under Influence of Suprarenal Preparations. (Studio delle necrosi aortiche da adrenalina.) G. Egidi.
133 *Addison's Disease and the Internal Secretions. E. Leonardi.
134 *The Blood in Exophthalmic Goiter. (Ulteriore contributo alla ematologia del morbi di Flaiani-Basedow.) O. Ciuffini. Commenced in No. 7.
135 *Variations in Viscosity of Blood as Early Sign of Cardiac Insufficiency. (Sulla diagnosi precoce della insufficienza cardiaca.) C. Rubino.

129. **Surgery of the Pancreas.**—Cappelli emphasizes the importance of the lymphatic connection between the bile passages and the head of the pancreas. A group of lymphatics from the gall-bladder unite in the head of the pancreas. This demonstrates the importance in treatment of chronic pancreatitis of draining the hepatic duct after removal of the gall-bladder as the most rational means of curing the pancreatic trouble. In acute hemorrhagic pancreatitis the gravity of the affection is due to the necrotic destruction of the pancreas rather than to the hemorrhage. Chronic pancreatitis consecutive to gall-stones is a well-individualized morbid entity, and the cure after effectual drainage of the bile passages proves its dependence on the lithiasis. The operation is more successful the earlier it is done, before glycosuria reveals disturbance in the internal secretion.

131. **Mental Disturbances with Brain Tumors.**—Osti concludes his study of this subject with summaries of 54 cases from the literature to confirm his assertion that early psychic symptoms, predominating over all the other symptoms of a tumor, are of the greatest importance for the diagnosis of a tumor in the frontal lobe.

133. **Addison's Disease and the Internal Secretions.**—Leonardi reports the clinical and autopsy findings in three cases; the morbid changes in the suprarenals were accompanied by corresponding changes in the other glands with an internal secretion, the thyroid, hypophysis and spleen—all of these were hypertrophied with evidence of hyperfunctioning. He does not regard Addison's disease as due to a single gland but to several participating in the process. The first symptom in one patient was tremor of the arms, probably the result of professional exposure to electric currents, the man's work being done under an electric light of between 15,000 and 20,000 candle-power. The effect of the Roentgen rays on glandular organs suggests that the light here may have affected the cervical sympathetic, the thyroid and the hypophysis.

Later the process seems to have extended to the abdominal sympathetic and suprarenals. In another case, atrophy of the ovaries followed a pregnancy with premature menopause. Calcareous degeneration of the thyroid followed, with tuberculous infection later and fulminating suprarenal symptoms. The diseased suprarenals could not obtain help from the ovaries and thyroid and there was merely slight hyperfunctioning of the hypophysis as a defensive reaction. In the three cases, patients in the last stages of Addison's disease recovered their energy and the bronzing subsided under thyroid treatment. The thyroid was already modified and was inadequate to supplant the diseased suprarenals, but it only required slight additional aid from without to be able to counteract temporarily the destructive process in the suprarenals. The disease, the course, the outcome, the histologic findings, the research in the experimental field, all sustain the assumption that Addison's disease in its complete form is a general affection of the entire great sympathetic system.

134. **Exophthalmic Goiter.**—Ciuffini tabulates the details in four cases of exophthalmic goiter after strumectomy with special reference to the blood picture.

135. **Early Diagnosis of Cardiac Insufficiency.**—Rubino states that the viscosity of the defibrinated blood becomes much increased as one of the earliest signs of cardiac insufficiency. He offers a plausible explanation of this fact and suggests its importance for the early diagnosis.

Riforma Medica, Naples

August 30, XXV, No. 35, pp. 953-980

136 Agglutinating Power of Tuberculous Serum on Malta Fever Germ. (Sul potere agglutinante del siero dei tubercolotici sul cocco melitense.) A. Evangelista.

Hospitalstidende, Copenhagen

July 21, LII, No. 29, pp. 897-928

137 Advantages of Transverse Incision for Laparotomy. (Pfannenstiels Tværincision.) E. Wanscher.

July 28, No. 30, pp. 929-960

138 To Remedy [illegible] Asylums. (Størrelsen og Arten af [illegible] Sindsygeanstalterne, samt Mulighede [illegible] A. T. Jacobsen.

August 4, No. 31, pp. 961-992

139 *Formaldehyd Disinfection without Special Apparatus. L. E. Walbum. Commenced in No. 30.

140 Laryngologic Instruments. (Ringkniv med Fangapparat. Larynxtang.) V. Lange.

August 11, No. 32, pp. 993-1016

141 *The Urine Sediment in Athletes and Nephritics. (Undersøgelser over Urinsediment hos Sportsmænd og Nefritikere.) H. B. Christensen.

August 25, No. 34, pp. 1049-1080

142 Is Artificial Light Rich in Ultraviolet Rays? (Er vore kunstige Lyskilder riga paa ultraviolette Straaler?) E. S. Johansen.

139. **Formaldehyd Disinfection Without Apparatus.**—Walbum reports a series of comparative tests of various methods of formaldehyd disinfection. The most effectual and the cheapest is with the special disinfecting formaldehyd apparatus, but good results can be obtained with the potassium permanganate-formaldehyd technic, only larger amounts of the chemicals must be used than the directions call for. He found it impossible to obtain satisfactory results until he increased the amounts to 3.3 kg. potassium permanganate, 3.3 liters formalin and 3.3 liters water for each 100 cubic meters. Disinfection of passenger cars and hacks was one of his aims, and he describes the methods found most convenient. Strips of paper pasted along the crevices left unsightly marks, but it proved feasible to plug the crevices around doors and windows with cotton and the ventilators with cushions filled with cotton, while a special device closed the water-closets air-tight and permitted them to be filled to the top with a disinfecting fluid. The upholstery absorbs so much of the fumes that unusually large amounts are required. It was found possible to disinfect a hack in fifteen minutes with 500 gm. each of the permanganate, formalin and water, after doors and windows had been plugged with moist cotton. Staphylococci, diphtheria and typhoid bacilli were thus destroyed in the tests. After fifteen minutes the doors of the hack were opened and after five more minutes the zinc vessel holding the mixture was removed and another introduced containing 1.5 kg. of slaked lime in small pieces over which was poured a hot solution of 250 gm. of ammonium chlorid in 500 gm. boiling water. The doors of the hack were then closed again for fifteen minutes, after which the vessel was removed, the doors thrown open, and the vehicle was again ready for use in an hour or hour and a half. Full descriptions are given of the different tests and methods used.

141. **The Urine Sediment in Nephritis and After Sports.**—Christensen gives the tabulated details respecting the urine findings in 10 football players, 12 wrestlers, 27 athletes after their exercises, and a number of others—all showing that the urine sediment after these exertions resembles the sediment in severe nephritis. Half an hour's wrestling by a robust and healthy individual will bring fat into the sediment of the urine just as is observed in chronic nephritis, but evidently it is merely the result of the changes induced in the circulation by the violent exercise.

Ugeskrift for Læger, Copenhagen

August 19, LXXI, No. 33, pp. 933-954

143 Eye Diseases Occasioned by Nephritis. (Øjenlidelser foraarsagede af Nefritis.) C. F. Heerfordt. Commenced in No. 32.

August 26, No. 34, pp. 955-976

144 *Hypertrophy of the Heart in Nephritis. (Hjertehypertrofien ved Nefritis.) V. Scheel.

144. **Hypertrophy of the Heart in Nephritis.**—Scheel regards it as practically established that the heart hypertrophies in nephritis on account of the changes in the smaller arteries, compelling it to greater efforts. These changes in the arterioles are the result of the action of some still unknown substance circulating in the blood owing to the defective elimination by the kidneys of nitrogenous waste, and it is probably an important factor in the development of arteriosclerosis. Cystic kidney and hydronephrosis, interfering with the elimination through the kidneys, are also frequently accompanied by enlargement of the left ventricle. The substance in question may have some direct action on the heart itself, stimulating it to greater efforts, so that the right ventricle may hypertrophy also. Changes in the myocardium do not play much part in nephritis; as a rule the coronary arteries are not much affected. Death from heart failure is more frequent with secondary than with primary nephritis. In his 27 cases of nephritis after acute glomerulitis, 6 of the patients died from heart failure, while only one fatality from this cause occurred in his 20 cases of contracted kidney. Hypertrophy of the heart was constant in his glomerulitis cases, but was not encountered once in 15 cases of chronic parenchymatous nephritis.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

ANNUAL REPORT OF THE MT. SINAI HOSPITAL OF BOSTON. Seventh Year. Boston, January, 1909. Paper.

PENNSYLVANIA HOSPITAL: ANNUAL REPORT OF THE DEPARTMENT FOR THE INSANE. For the year ending April 22, 1909. Paper. Pp. 36.

MINER'S NEW COMPLETE OBSTETRIC RECORD. Improved Edition, Giving all Medical Data Bearing on the Problem of Heredity. Cloth. Pp. 124. Copyright, 1883, by Joel A. Miner. Ann Arbor, Mich.: Joel A. Miner.

THE GREAT WHITE PLAGUE: Tuberculosis. By Edward O. Otis, M.D., Professor of Pulmonary Diseases and Climatology, Tufts College Medical School. Cloth. Pp. 321. Price, $1.00 net. New York: Thomas Y. Crowell & Co.

MINOR OPHTHALMIC AND AURAL TECHNIQUE. By Alfred Nicholas Murray, M.D., Chicago, Assistant in the Department of Otology and Laryngology, Rush Medical College. Cloth. Pp. 233, with 98 illustrations. Price, $3.00. Chicago: Cleveland Press, 1909.

TEXT-BOOK OF ANATOMY AND PHYSIOLOGY FOR NURSES. Compiled by Diana Clifford Kimber, Graduate of Bellevue Training School. Third Edition, Revised by Carolyn E. Gray, R. N., Assistant Superintendent, New York City Training School for Nurses. Cloth. Pp. 421, with illustrations. Price $2.50. New York: The Macmillan Co., 1909.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS, with Especial Reference to the Application of Remedial Measures to Disease and Their Employment on a Rational Basis. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Thirteenth Edition. Cloth. Pp. 866, with 122 engravings and 4 colored plates Price, $4.00. Philadelphia: Lea and Febiger, 1909.

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Original Articles

DIET IN TYPHOID FEVER *

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The conclusions which I have reached concerning the food requirements of the typhoid fever patient are based on studies on the protein metabolism of the disease which have been carried out in Bellevue Hospital and the Department of Experimental Pathology of Cornell University, in collaboration with Dr. P. A. Shaffer, during the last two years.

I believe that the solution of the essential problems of the typhoid-fever diet will be found in the correct answers to two questions:

I. Shall the typhoid fever patient be given enough food to meet his energy requirements?

II. How much food may be considered necessary to fulfill these requirements?

It is obvious that the digestibility and general suitability of the various foods can not be ignored, and these will be referred to later.

I. SHALL THE TYPHOID FEVER PATIENT BE GIVEN ENOUGH FOOD TO MEET HIS ENERGY REQUIREMENTS?

Brief reference to the history of typhoid diets will assist us in finding the answer to this question.

Starvation was the accepted practice for centuries in fevers of all kinds, and included deprivation of water. Graves[1] (1835) convinced himself that, for want of food, the ill effects of starvation were added to the ravages of the disease and recommended a diet which at that time was considered revolutionary. The diet consisted of carbohydrate-water made from toast-crumbs, meat-broths and jellies. It is difficult to estimate the caloric value of Graves' diet, since exact quantities are not mentioned, but at the most liberal reckoning it furnished not more than 300 calories in 24 hours—the equivalent of about 10 ounces of milk. Graves' belief that patients were benefited by this meager diet was shared by the great Trousseau and other eminent men of his time. The next advance in the feeding of typhoid patients was due, according to Nichols,[2] to the teaching of the late Austin Flint. Flint popularized the milk diet (about 1870). The usual quantity of milk taken by a typhoid patient in 24 hours—2 quarts—furnishes about 1,400 calories. The milk diet remained unchallenged until 1892, when Peabody's[3] paper, questioning its suitability, was published. Since 1892 there has grown up a school of practitioners who advocate liberal diets. Among them may be mentioned Shattuck,[4] Barrs,[5] Bushuyev,[6] Fitz,[7] Mueller,[8] Manges,[9] Kinnicutt[10] and LeFevre.[11] Bushuyev is the only one of these authors who has mentioned the quantities of the various foods to be given, and, therefore, the caloric values of these diets are difficult to estimate. Bushuyev's diet furnishes approximately 2,000 calories a day.

Thus, in each of these three diet-periods, there has been an increase in the energy value of the food recommended—an increase of 1,100 calories a day from Graves to Flint and a further increase of 600 calories from Flint to Bushuyev. With each addition to the diet the statement has been made that the patients have been benefited. With respect to each addition, the profession as a whole has been perhaps too conservative.

Since the chief objections which have been raised to the liberal diets relate rather to the physical state of the food than to the amount of energy they furnish, no attempt will be made at this time to answer them.

The history of diets in typhoid fever, then, clearly indicates a steady, but very slow, tendency to increase the amount of food allowed to the patients. Only exceptionally to-day do we find physicians, once they have used the higher caloric diets, advocating a return to the older methods, and as a rule their arguments are based on questions of digestibility rather than on the energy value of the foods. McCrae[12] has expressed the opinion that more harm may result from overfeeding than from underfeeding, but he is evidently referring to the possibility of setting up digestive disturbances. A distinction must be made between properly nourishing and improperly feeding a patient.

Turning from the history of the typhoid diets and the claims which have been made for them, we may inquire whether there is evidence that definite harm may *come to a patient through partial starvation. It* is well known that partial starvation lowers the resisting power of healthy persons, and there is reason to believe that immunity to infective diseases is not so readily acquired when patients are undernourished. Healthy laboratory animals develop a better immune serum than those which are not robust. Ewing[13] believes that many of the clinical and pathologic phenomena in severe cases of typhoid fever are directly attributable to an autointoxication resulting from the excessive destruction of body tissues. Furthermore, Ewing and Wolf[14] state, in a recent study of the urinary nitrogen in typhoid fever, that "the most obvious conclusion of this study is the inadequacy of the diet used in these cases and of that generally employed in typhoid fever."

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Clinical Medicine, New Sydenham Society, 1884, i, 136.

[2] Diet in Typhoid Fever, Fiske Fund Prize Dissertation, Providence, 1907.

[3] Diet in Typhoid Fever, Med. Rec., 1892, xlii, 620.

[4] THE JOURNAL A. M. A., 1897, xxix, 51.

[5] Brit. Med. Jour., 1897, i, 125.

[6] Progressive Med., 1899, i, 328.

[7] Boston Med. and Surg. Jour., 1899, cxli, 509, 526.

[8] Therap. d. Gegenw., 1904, vi, 23.

[9] Med. Rec., 1900, lvii, 1.

[10] Boston Med. and Surg. Jour., 1906, clv, 1.

[11] Med. News, 1904, lxxxiv, 11.

[12] Modern Med., 1907, article on "Typhoid Fever," p. 211.

[13] Proc. Path. Soc., Philadelphia, 1905.

There is, therefore, strong experimental and clinical evidence in favor of giving typhoid patients sufficient food to meet their demands for energy.

II. HOW MUCH FOOD MAY BE CONSIDERED NECESSARY TO FULFILL THESE REQUIREMENTS?

In answering this question I shall consider, first, the energy value of the food. The relative proportions of protein, fat and carbohydrate to be employed will be referred to later.

One of the chief characteristics of typhoid fever, as we know it, is emaciation (Fig. 1). Losses of 25 pounds during the course of cases of even moderate severity are not uncommon, and as much as 50 pounds may be lost by patients during prolonged, severe attacks. If these losses concerned only fat and water, they would probably not be serious, but they involve muscle and other tissues as well. Losses of from 15 to 20 gm. of nitrogen a day, representing from ½ to ¾ pound of muscle, are not unusual. Scarcely any one would deny that these losses should be prevented if possible, provided the means taken for their prevention is not more dangerous than the losses themselves. The hunger of many patients during the course of the disease and of all patients during convalescence is probably Nature's protest against the practice of partial starvation. Patients who are well enough complain of it, those who are too ill to complain probably have even greater need for food.

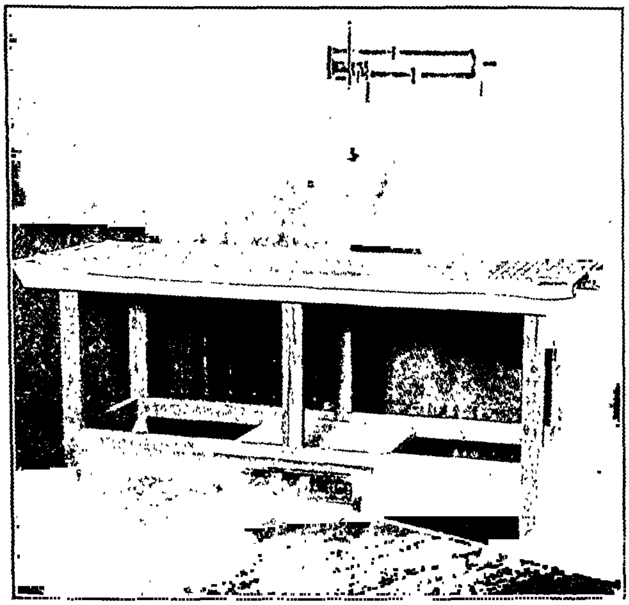

Fig. 1.—Apparatus for weighing bed patients constructed by hospital carpenter. The height of the table when placed on scales corresponds with that of the bed. The legs of table which just clear the floor prevent tilting.

The loss of weight in typhoid fever has been attributed to two causes: to the temperature and to so-called toxic destruction.

The Temperature.—The belief is common, even among the laity, that fever burns up tissues. Fritz Voit[15] and Linser and Schmid[16] have shown experimentally both in animals and man that pyrexia does increase metabolism. There is, therefore, a substantial basis for the common belief.

Toxic Destruction.—In addition to the febrile loss of body substances, there is a further increase in metabolism in the course of infective diseases which is due to the action of bacterial toxins. This is the so-called toxic destruction. The manner in which the toxins act is not definitely known.

Shaffer and I have found in our cases[17] that the losses due to both of these causes can be prevented by a high caloric carbohydrate diet. As no diet hitherto proposed for typhoid fever has furnished sufficient energy for the metabolic exchanges of the patient, we have concluded that the most potent factor in the losses of the disease is partial starvation.

We may calculate the minimum energy requirement of the typhoid patient as follows: A normal man at ordinary rest requires about 33 calories per kilo of body weight each day. According to Krehl,[18] the average typhoid patient requires a 25 per cent. addition to this in order to meet the febrile increase in heat production. This gives 41 calories per kilo of body weight per day or approximately 3,000 calories for a man weighing 150 pounds. It must be emphasized that this is the calculated minimum requirement.

If this calculation is approximately correct, then a patient weighing 150 pounds, taking 2 quarts of milk a day, is getting only 50 per cent. of his minimum requirement, and a patient of the same weight on a "liberal diet" is getting only 75 per cent. of this requirement. As a matter of fact, the discrepancies are even greater, since we found that the optimum requirement varied in different patients and at different stages of the disease, but was always greater than the calculated minimum. Our best results were obtained when the diets furnished from 60 to 80 calories per kilo per day, or 4,000 to 5,500 calories. In one case we reached 100 calories per kilo or 6,000 calories a day.

We have studied patients on a strict milk diet—2 quarts a day—and found that they lost from 5 to 12 gm. of nitrogen. These losses would cease, or at least be greatly reduced, when the energy value of the diet was raised. Forty-six patients altogether have been on our diet, with only one death. This was a case of ambulatory typhoid; the patient's pulse was alarmingly feeble on admission to the hospital, and he died a week later from what appeared to be acute dilatation of the heart. (I feel that this case might, with fairness, have been excluded from the total.) Many of the 46 patients suffered from very severe forms of typhoid fever. For example, the temperature ranged from 103 to 105 F. in one case and lasted 47 days, with a relapse of 27 days' duration. Some of the patients were kept almost in nitrogen equilibrium throughout the disease. It was not unusual for patients to weigh as much or even more when they were allowed to get up (usually about the fourteenth day of convalescence) as when they were taken ill. In one instance, the patient actually gained 2 pounds during a sharp relapse of 10 days' duration. In all instances, the patients appeared brighter and stronger and better able to fight the disease. The percentage of relapses was slightly lower than in another division of the hospital where the usual diets were employed. I do not feel disposed to make any statement as yet regarding the course and rapidity of convalescence. All of the patients left the hospital in excellent condition. Some of them I have been able to follow, and the impression I received was that convalescence progressed rapidly. But it is difficult to judge of this unless the patient can be seen frequently, which is manifestly impossible in the case of hospital patients.

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[14] To appear in Arch. Int. Med.

[15] Sitzungsb. d. Gesellsch. f. Morph. u. Physiol. in München, 1895, xi, 120.

[16] Arch. f. klin. Med., 1904, lxxix, 514.

[17] To appear in Arch. Int. Med.

[18] Principles of Clinical Pathology, Hewlett translation, Philadelphia, 1905.

Since the calculated minimum requirement of 3,000 calories diminishes but does not prevent protein loss, I would answer the second question by saying that a patient of 150 pounds' weight should be given food equivalent to 4,000 calories a day, but that the greater the energy value of his food, provided his digestive organs can handle it, the greater will be the sparing of protein and other body substances.

Diet.—The diet we used consisted, in the main, of milk, cream, milk-sugar and eggs. In addition, we allowed small slices of stale bread or toast, with as much butter as the patient wished. The daily quantities of these articles of food were about 1½ quarts of milk, from 1 to 2 pints of cream, from ½ to 1⅔ pounds of milk-sugar and from 3 to 6 eggs. It will be necessary to say a few words about each of these articles.

Fig. 2.—W. G. Blood culture positive. Very severe. Temperature 103-105 F. Duration of fever 47 days. Relapse of 27 day's duration. Ill for 3 weeks before admission. Said he had lost 15 lbs. Weight on admission, 151 lbs.; at end of first period, 140 lbs.; at beginning of relapse 144 lbs.; at end of relapse 140 lbs.: at first day up 154 lbs.; on discharge, 174 lbs. Picture was taken before patient was allowed out of bed.

Milk: I am convinced after much experience with it that milk, in moderate quantity, is not an undesirable constituent of the typhoid diet. When the quantity is excessive, it may unquestionably produce harm, but the argument that it forms an excellent culture medium for the typhoid bacillus in the intestine has been exploded by the investigations which have shown that typhoid fever is a bacillemia. Milk in the quantity mentioned has not produced tympanites in our cases. Occasionally milk curds have appeared in the stools and then the quantity of milk has been diminished or it was peptonized. A good average milk will furnish 740 calories to the quart.

Cream: Though cream furnishes a large amount of energy, it is not advisable, according to our present knowledge, to give more than one-third of the total calories of the diet in the form of fat. Fat in the food, if absorbed, will protect an equivalent amount of fat in the body. Fat protects protein also, but not so efficiently as does carbohydrate. Other objections to cream in large amounts are its tendency to upset the stomach and to produce diarrhea. Patients usually can take a pint of cream a day without difficulty. We have given as much as 42 ounces. In only one instance has the cream disagreed. This patient developed diarrhea when the quantity reached a quart a day. The diarrhea stopped immediately when the cream was withdrawn. The cream supplied at Bellevue Hospital contains from 25 to 30 per cent. of fat and furnishes 1,300 calories to the pint.

Fig. 3.—J. C. Blood culture positive. Severe. Temperature 101-105 F. Duration of fever 21 days. Weight, 12th day, 60½ lbs. (2 days after admission); 16th day, 58 lbs.; 18th day, 59½ lbs.; 22d day, 59 lbs.; 26th day, 58 lbs.; 28th day, 60 lbs. Picture was taken before patient was allowed out of bed.

Milk-sugar: Carbohydrate protects body protein better than any other foodstuff. For this reason a large proportion of the energy of our diet is supplied in that form. Starches can not be used in quantity because of their bulk and the consequent tax on the digestive organs. Therefore, it became necessary to select one of the sugars. We chose milk-sugar because it is not very sweet and not so likely to pall on the taste as other sugars, and because it does not so readily produce digestive disturbances. We have not found that it exhibited the laxative properties which have been ascribed to it; in fact, patients taking it often suffered from the constipation which is so common in typhoid fever.

The objections which we have found to milk-sugar are: some patients complain that it is too sweet; in some instances it produced nausea and vomiting, but more often vomiting without nausea, the stomach contents being simply regurgitated. When vomiting occurs, the milk-sugar should be stopped. As a rule, however, its administration may be resumed in smaller quantities after several days and the quantity then be gradually increased. In a few instances the milk-sugar has caused moderate tympanites. We have not had a patient who could not be educated to take it in sufficient amount to materially raise the caloric value of the diet. The method of giving the milk-sugar will be discussed later. Milk-sugar furnishes 4 calories for each gram, or 120 per ounce.

Eggs: While it has not been determined definitely how much nitrogen a typhoid patient requires in 24 hours, our results indicate that the optimum amount lies between 12 and 16 gm. One and one-half quarts of milk and a pint of cream furnish 11 gm. of nitrogen and we made up the deficit with eggs. A two-ounce egg supplies 1+ gm. nitrogen.

We chose eggs because they are easily digested and readily obtained. Meat and home-made meat juice are more likely to cause digestive disturbances. I have specified "home-made" meat juice because the consensus among scientists is that commercial meat preparations possess very little food value.[19]

Fig. 4.—P. Z. Blood culture positive. Moderately severe. Temperature 101-103.8 F. Duration of fever 34 days. Weight 6th day, 129 lbs.; 10th day, 132 lbs.; 15th day, 136 lbs.; 17th day, 135 lbs.. 21st day, 133 lbs.; 24th day, 132 lbs.; 27th day, 132 lbs.; 35th day, 130 lbs Picture was taken before patient was allowed out of bed.

It is important that the protein content of the typhoid diet be kept as low as is consistent with the nitrogen demands of the patient. In addition to digestive disturbances, the injudicious administration of meat may seriously disorder metabolism. It is well known that meat may cause the *febris carnis*. Ewing and Wolf[14] have recently found evidence in the urinary nitrogen to indicate that this "meat-fever" is due to the inability of the patient to digest and metabolize properly some alien proteins. They noted also in their cases this very important fact, that the *febris carnis* was soon followed by albuminuria, which, they suggest, may be the starting point of nephritis. Therefore, the caution may be repeated, to keep the protein content of the typhoid diet low during the disease and to allow meat sparingly early in convalescence.

Some Practical Considerations.—The diet which I have outlined is a difficult one to give to patients, on the whole rather more difficult than milk. Intelligent and reasonable persons, however, take it readily when the objects of the diet are explained to them. In other instances, patients are not told that the milk differs from what they have been accustomed to taking. The greatest difficulty has been experienced with adolescents who refused to take the diet because patients near them were allowed other food. When I have been convinced that the reason for not taking it was sheer stubbornness, I have insisted on carrying out the order. When I have even suspected that the diet was disagreeing with the patient, I have modified or stopped it, but always have cautiously resumed it (Figs. 2 and 3).

The food has been given at two-hour intervals, except that patients have not been awakened at night. The cream has usually been added to the milk, in the proportion of 2 ounces cream to 6 ounces milk, though a palatable ice-cream may be made with cream and milk-sugar. The milk-sugar should be given in small quantities at first—a tablespoonful to the glass of milk—and gradually increased to 4 tablespoonfuls. Many patients will take 2 ounces of cream, 6 ounces of milk and 2 ounces of milk-sugar several times a day, but this is a rich combination. At other times the milk-sugar may be given in tea, coffee, or cocoa, or it may be made with an egg into soft or baked custard. A milk-sugar lemonade may be given once or twice a day. If the water and sugar are boiled for two minutes before the lemon juice is added, 4 ounces of milk-sugar may be put into 8 ounces of lemonade. If the lemonade is not sweet enough, a tablespoonful of cane-sugar may be added. The eggs may be given soft boiled, soft poached or shaken up in milk, with or without whiskey.

While I believe that the foods mentioned must form the basis of the ideal diet for typhoid fever, much remains to be done in working out details. The greater the variety and the more palatable the dishes presented to the patient, the more content will he be to adhere to the prescribed diet. We have not yet been able to devote much time to the selection of variety in foods and dishes, but this is one of the questions which soon will engage our attention.

CONCLUSIONS

1. The practice of partial starvation, at present followed in the treatment of typhoid fever, is highly detrimental to the patient's welfare.

2. It is not only desirable but necessary that the typhoid patient be given sufficient food to cover his energy expenditures.

3. The amount of food required for this purpose will vary with different patients, but may be estimated approximately on the basis of 40 calories per kilogram of body weight per day.

ABSTRACT OF DISCUSSION

Dr. Max Einhorn, New York: The principles contained in the paper were recognized as far back as Graves, but they were not carried out as by Dr. Coleman. Since the days of Hippocrates it has been customary to subject these patients with fever to starvation diet, giving only water and barley-water, and under this rest treatment the patients felt quite comfortable; this method of treatment was carried out up to the time of Graves, who began to feed his typhiod patients with milk. The Hippocratic principle of rest was correct in caring for patients with diseases which run a short course, or last but a short time. Take an adult, with pneumonia, for instance, who is in good condition, the disease will last but five, six or seven days, the loss of a little flesh is not going to do him any harm; in starvation treatment may be carried out. The only important point that should be borne in mind and not forgotten is that these patients should have plenty of water. Individuals may go without food for a short time, but they can not stand the loss of water for even five, six or seven days. They can stand twenty days, loss of food, provided they are given plenty of water. But if we extend this principle a little further to patients with typhoid fever we then begin to see harm in the system. Typhoid fever lasts two, four, five or six weeks, and if we try to extend that principle the organism loses too much and irreparable consequences result to the system caused by the great loss of flesh. For that reason Graves believed that these patients should not be starved; he believed that they should receive nourishment and that one of the best substances for this was milk. Since then milk has been given to patients with typhoid fever, except perhaps when some fanatics give the starvation treatment. Twenty-five years ago, when I was house physician in a hospital, patients with typhoid fever were given a diet consisting particularly of milk, broths and raw eggs. Ten ounces every two hours were given, and also plenty of water and lemonade. With that diet, although we could not keep up the weight, we did prevent some loss. We gave occasionally a soft diet and farinaceous foods. What is new in Dr. Coleman's report is that he has succeeded in checking this loss of weight during the typhoid fever period. That has not been done before. During that period the organism requires more and more calories to replace the loss caused by the increased oxidation; the patient requires forty instead of twenty-five or twenty-six calories. Dr. Coleman has succeeded and we must follow his example and feed patients suffering with typhoid fever.

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[19] Bull. No. 114, Bureau of Chemistry.

DR. THOMAS A. CLAYTOR, Washington, D. C.: For five or six years I have been feeding my typhoid fever patients along the lines advised by Dr. Shattuck and I agree with Dr. Coleman in his statement that when a physician has once fed these patients he will never be likely to return to the starvation diet. I believe that typhoid fever patients are more likely to recover when fed than when starved. They are far more contented. One of the most trying experiences with which these patients have to contend is hunger. When fed they are comparatively happy, they are much stronger, they convalesce more rapidly. Instead of being reduced to skin and bones they get up in good physical condition and are able to return to work much earlier, which, to the working man, is a very important thing. I certainly have not seen any more instances of hemorrhage or of perforation among the patients liberally fed than in those on liquid diet. I feel convinced that within the next ten years liberal feeding will become the rule rather than the exception in the treatment of typhoid.

DR. ARTHUR K. STONE, Boston: In a series of over fifty typhoid patients treated by me last summer at the Massachusetts General Hospital the diet used was much more mixed than that used by Dr. Coleman and was the diet suggested a number of years ago by F. C. Shattuck. It represented about 2,000 calories and my patients did as well as did Dr. Coleman's; there was only one death in the series. On the whole, the patients behaved very well on that diet and lost but little weight, but I debated whether it would not be wiser to add sugar of milk or in other ways to increase the caloric value of the diet; but as they were doing so well I concluded that this would not be necessary. However, to make sure, I invited Professor Follin to see these patients with me, requesting him to suggest whether it would be wise to increase the caloric value of the diet. He said he saw no reason why I should change from the diet I had been using. Practically no drugs were used in the treatment of these cases and the baths were light sponges.

DR. A. JACOBI, New York: Dr. Coleman is to be congratulated on his results, which, with that diet, I should not expect. I am greatly astonished at the good results he obtained. His diet was milk and, I hope, good milk. He has been very fortunate and I have not the slightest doubt the patients did very well; but what he told us certainly does not agree with what we know. It looks almost impossible to expect a healthy person, far less one with typhoid fever, to digest as much food as his patients did. I have never seen more disorders of digestion with indicanuria, acetone and diacetic acid in the urine than in patients who consumed a great deal of fat in that shape. Moreover, his patients taking so much fat took, at the same time, much milk undiluted and unmixed; my patients could not take it without becoming ill. I know that few children will stand an exclusively milk diet very long. It is true that patients will stand a great deal, but we should not contribute to their suffering. I wish to state that it is impossible for an average intestine to digest an unmixed cream to that extent. We cannot go into the physiology of digestion at this time, but I know that both adults and children, healthy or diseased, will bear milk that is diluted with cereal better, particularly in fevers in which the gastric secretions are lower than before the individuals were taken ill. In typhoid fever I would rather furnish the patients with 2,500 calories than 3,000, 4,000 or 5,000. It seems to me that Dr. Coleman, in his good wishes for the patient, has gone too far. Yet he says he has lost but one patient, and I think that other conditions in the hospital must have been extremely favorable and the patients well cared for. I congratulate him on his results, but I wish to give warning that we should be very careful in fat feeding to the extent that he has proposed to us. If a cereal is mixed with the milk, it will be more digestible. For many years I have not given pure milk in typhoid fever; I always mix it with rice-water or barley-water or other cereals or gelatin. I may not agree with Dr. Coleman's views, but I cannot gainsay his results, which are almost unprecedented. What I have said, however, is intended as a warning only.

DR. JAMES M. ANDERS, Philadelphia: I think it is a significant fact that general practitioners no longer pursue a starvation diet in the treatment of typhoid. Certain dietetic principles should be kept in mind in connection with the management of typhoid fever, and this remark applies to other infections as well. First of all, we should consider the proteid substances and recollect that the energy they represent is not all utilized by the system. For example, too much proteid food favors putrefaction in the intestinal tract, and with this there is brought about increased gravity of the case, especially in the direction of local symptoms. On the other hand, we should recollect that the energy represented by carbohydrates and fats is entirely utilizable within the system; therefore, we should give a certain amount of carbohydrates and fat to typhoid patients. This is what Dr. Jacobi has just hinted at in connection with the giving of milk. It should be remembered that one object of the dietetic treatment is the preservation of the tissues of the body and the prevention of emaciation which would otherwise occur. Fats, however, will not do this, but the carbohydrates will do it. Some of Dr. Coleman's success in maintaining the bodily weight of his patients so well may have arisen from the use of carbohydrates which were easily digested, and particularly the milk sugar which he recommended. It seems to me that his main suggestions are excellent ones and could be profitably followed by the general profession. The preservation of tissues, however, can only be accompanied by the use of carbohydrates.

DR. JAMES B. WALKER, Philadelphia: I have been very much interested in Dr. Coleman's paper because I have feared that increase in feeding of typhoid-fever patients may go too far to the other extreme. I believe that Dr. Coleman's results are thoroughly honest and true, but I fear, with Dr. Jacobi, who is always right, to give as much cream to a typhoid patient as Dr. Coleman has done. One article of diet which I think should not be given is starch. Starches are digested in the small intestine largely, as in the absence of chewing, insalivation is almost *nil*. Those who advocate a crust of bread or toast or other starchy food make a mistake in that they throw work on a part of the bowel that is not prepared to do it. I have found calves'-foot jelly—freshly prepared from the calves' feet and not made from the gelatin of the shops too often containing the clippings from tanneries—an appetizing and digestible addition to the typhoid diet. I should like to add this to Dr. Coleman's list. I have given as much as one pint daily. As gelatin is believed to be antehemorrhagic, it may help to avert this dangerous complication. I want to advise against the use of starches for what seems to me good physiologic reasons, to advocate the use of calves'-foot jelly as an addition to the diet, and to protest against too varied and liberal feeding of patients affected with typhoid fever.

DR. D. L. PARKER, Detroit: The tendency to more liberal feeding in typhoid is establishing itself rapidly, and it seems to me that the principle that underlies the whole scheme is the return to the mode of living which is natural to the patient, so far as his condition will permit. Certain articles of diet must be eliminated, such as starches, which are digested in the small intestine, as Dr. Walker stated. One of the most important things to remember is that the natural diet contains salt, and, as a rule, the diet given to patients with typhoid fever contains very little salt. For a number of years it has been my practice to see that these patients receive as much salt at least as on an ordinary diet. Another important thing is to have sufficient time between the feedings. It has been found in the forced feeding of tuberculous patients, for instance, that the taking of food at intervals of four or five hours is very much better for these patients than if the meals are closer together. No person here in this room would think of taking food every two hours. I think the giving of food should be at longer intervals. Sufficient time should be given for the digestion of one meal before another is given.

DR. WOODS HUTCHINSON, New York: Nothing illustrates the progress of medicine better than the treatment of typhoid fever. Over sixty years ago Graves of Dublin chose as his epitaph "He fed fevers." Prior to this, blankets were placed over these patients, they were given very little food; even with high temperatures they were not allowed much water and no fresh air; the windows were kept closed; cold water to drink was regarded as deadly; and only lukewarm slops were permitted; in fact, the patients suffered almost as much from what was done for them as they did from the disease. Six years ago I began to use a liberal diet in my cases of typhoid fever, and the results have been the same as Dr. Coleman's. I had not the courage to carry it so far as Dr. Coleman has done, but the patients were given an abundance of tender meat, broths, jellies, crackers, toast, ice-cream, etc., and the results were excellent, not only as to keeping up the weight and strength of the patients, but also in preventing that condition of collapse after the fever subsided and the violent convalescent appetites which hitherto had craved such things as corned beef, beans and cold slaw. The patients made more rapid recoveries, had fewer complications and the results as a whole were very good. We think too much of the risk to the damaged intestine from liberal feeding in this disease, and regard typhoid fever as an intestinal disease too exclusively. Typhoid is a general disease, and, as has been shown, those patients who have been fed liberally, instead of suffering more from putrefactive changes in the intestines and tympany, have less of these changes, and fewer complications than those who are underfed. We are coming to see that many of the later symptoms that occur in the disease are due not so much to the actual toxic products of the bacilli as to the poisons generated from the broken-down tissues of the patient. Many of the symptoms occurring late in typhoid fever are not so much to the disease itself as to the mistaken method of treatment, among which starvation ranks high. There is a risk in withholding food as well as in giving it.

DR. WARREN COLEMAN, New York: I did not foresee the nature of the questions which have been asked me or I should have requested more time of the chairman for my paper. One cannot deal adequately with such a subject as diet in typhoid fever in ten minutes. For lack of time I cannot answer all the questions that have been raised in the discussion. I feel, however, that I must attempt to reply to Dr. Jacobi.

The first thing I would say, and say emphatically, is that I did not experiment with patients in a way that was not thoroughly justifiable. Every increase made in the amount of milk-sugar was carefully controlled by observation in the hospital and by examinations in the laboratory of experimental pathology. Every increase made in the amount of fat was controlled in the same fashion. When there was reason even to suspect that the food was not agreeing with a patient, that particular article of food was stopped or diminished in quantity. I think that Dr. Jacobi perhaps has gained a wrong impression with regard to the amount of cream given. The usual quantity was one pint; sometimes as much as a quart; and in one or two instance even more. I did not observe any digestive or intestinal disturbances in any patient who was fed on this relatively large amount of cream except once; diarrhea occurred in that instance. The cream was stopped and at once the diarrhea ceased. Cream was not given again to this patient. The stools of all the patients were watched very carefully. There was no evidence that the cream was not, for the most part, utilized.

I am convinced that the principal question regarding the typhoid diet is whether it is desirable to let a patient live on his own tissues when it is possible to protect his tissues by giving him enough food. I have not yet worked out all the details of the diet. It has been estimated that gelatin may replace protein to the extent of one-fifth of the daily need of nitrogen. I started out to determine whether by giving a patient a sufficient number of calories to cover his expenditures, I could protect the body tissues. This was accomplished. In future I shall work in part on more practical problems, such as the varieties of food which may be given and the proper ways to prepare them. I did not follow the plan of giving large amounts of water, but was guided chiefly by the desires of the patients.

The patients are weighed on a long table, which, when placed on the platform of the scales, corresponds with the height of the bed. The weight is obtained without more disturbance to the patient than moving him from one side of the bed to the other.

INTRADURAL TUMOR OF THE MID-DORSAL CORD

OPERATION: COMPLETE RECOVERY OF SENSATION AND PARTIAL RESTORATION OF MOTION *

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The era of spinal tumor surgery began in 1887 when Gowers[1] correctly diagnosed and Horsley successfully removed a tumor from the mid-dorsal cord. The operation was followed by almost complete recovery of sensation and motion. Since the publication of this remarkable case, in 1888, neurologists and surgeons have vied with each other in their efforts to improve the neurologic and surgical technic of the diagnosis and surgery of spinal tumor.

Although many patients have been rescued from early graves and others have been restored to perfect health from a state of invalidism, yet the total number of complete and partial recoveries is not so large as to make the report of a single case superfluous. The diagnosis in some instances is extremely easy and certain, while in others it can never reach beyond a probability. The difficulties in diagnosis have been sufficiently set forth in the instructive article by von Malaisé,[2] the complete monograph of Bruns,[3] the lucid reports of F.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Gowers and Horsley: Med.-Chir. Tr., 1888, p. 407.

[2] Von Malaisé [illegible] extra- und intramedullären Tumor [illegible], 1904, lxxx, 143.

[3] Bruns: Die [illegible] 1907.

Schultze,[4] Oppenheim,[5] Fedor Krause,[6] and a number of American and English observers.

In my remarks at the conclusion of the following case report I shall briefly allude to the literature bearing on cases of spinal tumor in which operation has been performed.

REPORT OF CASE

Patient.—B. F., a working girl, aged 23, was first seen at the request of Dr. A. Goldspohn on Dec. 17, 1906.

Family History.—The parents were living and well; the grandparents on the mother's side died of old age; on the father's side they lived to middle age; their death was due to causes other than tuberculosis, malignancy, or vascular accident. An only brother and a sister were healthy. The family was remarkably free from functional and organic nervous disease.

Personal History.—The patient was born in normal labor and during infancy and early childhood had been free from serious disease. With the exception of an attack of typhoid at 12, measles and pertussis at 13, her health had been good until the beginning of the present illness. Her menses were regular, habits correct; there was no trauma or evidence of venereal infection.

Onset and Course of Disease.—Early in 1906 (January or February) the patient began to experience attacks of pain in the right hypochondriac region, which subsequently became more or less persistent. Occasionally the pains radiated into the epigastrium and produced a sensation of nausea, accompanied with eructations. It was the latter circumstance which first induced her to seek medical assistance. For some time she was treated for dyspepsia and neuralgia. Later an osteopath was consulted who endeavored to reduce a supposed displaced vertebra. In spite of all treatment, however, the symptoms continued to progress. The pains, which were at first almost entirely confined to the right half of the body, soon began to invade the left side, and in less than two months had nearly encircled the trunk at a height of one or two fingerbreadths below the nipples. Though there was considerable variation in the intensity of the pains, they were never entirely absent. The upper portion of the trunk, the face and upper extremities were at no time the seat of sensory disorder, but several weeks after the beginning of the disease, fatigue and numbness were complained of in the lower extremities, and these sensations had a tendency to become more or less constant. On Sept. 23, 1908, after having retired for the night, the patient awoke feeling numb and stiff in the left leg from the knee downward. When she stepped out of bed to ascertain if she could still walk, the discovery was made that the left leg dragged and was partially paralyzed. There was considerable improvement in this limb on the following day, but the right leg had meanwhile become similarly affected; the latter grew rapidly worse and within three days was paretic. One week after these motor disturbances a feeling of tightness appeared about the waist and all sensation was abolished below the umbilical line. The sphincters were somewhat affected. The patient could then still walk without support, but was obliged to take rather small steps, as the feet seemed glued to the floor. At this period of the progress of the case she entered a hospital where she received vigorous antispecific treatment for about ten weeks. It was while under such treatment, about three weeks after the first motor symptoms had appeared, that the left and, soon afterward, the right leg became completely paralyzed. With the paraplegia there appeared more marked muscular twitchings and jerkings, which had for some time previously been the cause of considerable discomfort. In addition there were burning sensations in the paralyzed parts. The bladder and rectum subsequently became paralyzed. Her condition continuing to grow worse, the relatives caused a transfer to the Evangelical Deaconess' Hospital, where she became a patient of Dr. Goldspohn, who kindly referred the case to me for an examination. This was made on Dec. 16, 1906, and the following notes taken:

"*Examination.*—The patient, a well-developed girl, weighing about 150 pounds, of average height, occupies a recumbent posture and answers questions intelligently. But for the occasional demonstrations of pain caused by recurrent muscular spasms in the lower extremities, she gives one the impression of perfect health. Examination reveals normal findings in heart, lungs and abdominal viscera; the pulse is soft, regular and 75 beats per minute. Blood and urine normal. Pupils are equal, respond to light and in accommodation. Vision is unimpaired and eyegrounds appear normal. Glandular enlargements or evidences of neoplasm can not be discovered on her body.

"Motion: Eyes, face, neck and upper extremities are not involved; in marked contrast with these organs are the parts below the nipple line; here everything seems lifeless. The abdominal muscles are paretic and there is a condition of "lead-pipe" rigidity in the spastic lower extremities. From time to time the legs are seen to draw up and slowly to relax; voluntary control over the muscles is completely lost. The sphincters are distinctly paretic. The bladder empties itself periodically without the patient's knowledge. The bowels are absolutely constipated; several enemas are usually required to cause a partial evacuation.

"Reflexes: Normal in eyes, face and upper extremities. Abdominal reflexes are absent. The patellar and ankle-jerks are pathologically exaggerated; there is distinct bilateral rectus and ankle clonus. Babinski, Oppenheim and Gordon signs are promptly obtained.

"Sensation: 1. Tactile sensation is abolished up to a point which corresponds on Seiffer's charts to the space midway between the fifth and sixth dorsal segments on the right and to about the sixth segment on the left side anteriorly (Fig. 1). Posteriorly tactile sensation is lost up to about a line indicating the sixth dorsal segment on the right and to about one-half segment below this on the left side (Fig. 2).

"2. In a small strip below the upper limit of tactile anesthesia pain and temperature sense are still preserved (areas shaded lightly in Figs. 1 and 2).

"3. There is a somewhat larger area below the one last mentioned in which the pain sense is still preserved, while other sensory qualities are lost (circles in Figs. 1 and 2). Sensation seems to have suffered first and most in tactile conduction, then the temperature qualities appear to have yielded and last of all the pain sense has succumbed."

Diagnosis.—A history of unilateral pain gradually becoming bilateral, followed by motor paralysis of first one lower extremity, then of the other, with sphincter and sensory paralysis added, presented the classical symptom-complex of spinal tumor. The negative findings above the line of beginning anesthesia certainly excluded diffuse cerebrospinal disease. The relatively slow evolution of symptoms was against the diagnosis of acute transverse myelitis and in favor of slow compression of the cord by tumor. Syphilis and tuberculosis had still to be considered. But there were no stigmata of congenital or acquired lues and no evidence of tuberculosis anywhere on the patient's body. Neither was there a history of trauma or of infection. Having decided that there was a tumor of the cord, the next task was to localize it. This was comparatively easy. Sensory disturbances of any kind being found opposite a line midway between the fifth and sixth dorsal segments, the upper end of the neoplasm was probably situated opposite the spine of the third dorsal vertebra.

In the determination whether the tumor was extradural, intradural or medullary in character, I was influenced by the following considerations:

1. There were no neoplastic formations anywhere in the body; there was no deformity of, or tenderness in the vertebræ. The pains were, in the beginning at least, not agonizing, constant or of long duration. These negative findings spoke strongly against the existence of an extradural tumor.

2. The early presence of root irritation (pain) and at the same time the absence of cord symptoms make the diagnosis of intradural tumor at least improbable; for in such tumors the rule is for cord symptoms to appear early and for pain to come late.

My diagnosis was: Spinal tumor, probably intradural and situated at or about the spine of the third dorsal vertebra.

Immediate operation was advised.

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[4] Schultze, F.: Zur Diagnose der Operabilität der Hirn- und Rückenmarkstumoren und

[5] Oppenheim: Beiträg
Geschwülste im Bereich d

[6] Krause, Fedor: Zur
Arch. f. klin. Chir., 1907, lxxxiv, [illegible].

My colleague, Dr. Goldspohn, concurred in the diagnosis and was ready to operate, when for some unknown reason the patient's friends moved her to Wesley Hospital and entered her there as a ward patient. While at this hospital she was assigned to Dr. S. C. Plummer, the surgeon on service, who kindly referred the case to me for a neurologic opinion. After a re-examination, finding that no material change had occurred in her condition, I again concluded that a laminectomy was indicated. Dr. S. C. Plummer performed the operation on Jan. 4, 1907. He has kindly permitted me to abstract the following notes from his surgical report of the case before the Chicago Surgical Society, May 8, 1908:

Operation.—Patient was placed in the semiprone position on the left side. Ether anesthesia was used. The incision was made in the median line of the back, beginning just below the seventh cervical vertebra and extending downward to the seventh dorsal spine. The muscles were cut away from the sides of the spinous processes from the first to the sixth dorsal vertebræ on the left side. Several vessels were clamped and ligated, and a hot laparotomy sponge was packed into the wound, while on the right side the muscles were separated in a similar manner. Hemorrhage having been checked, the vertebral grooves were now cleared with a chisel by using the spinous processes as a fulcrum and pushing the tissues away from the laminæ. The spinous process of the fifth dorsal vertebra was now cut off with a bone-cutting forceps, and the ligamentum subflavum between it and the fourth dorsal vertebra severed with a knife. A special laminectomy forceps was used to cut away part of the laminæ of the fourth dorsal vertebra and the remainder was removed with the rongeur forceps. The dura, which now lay exposed from the lower border of the first to the upper border of the sixth vertebra, appeared normal in color; nothing abnormal could be felt on palpation. Pulsation seemed normal, but it was stronger in the upper third than in the lower two-thirds. This extensive exposure of the dura is explained by the circumstance that, having uncovered three cord segments and finding the dura seemingly normal, we believed an error in localization had been made. It was therefore decided to snip off another spine. When consequently the fifth vertebral spine had been removed and the dura still appeared normal, it was thought best to open it and search for the tumor. The patient's head was now somewhat lowered and the dura opened in the median line. Opposite the third dorsal spine a tumor was found lying between the membranes and the cord posteriorly and somewhat to the right. Using the handle of the knife this was easily delivered and the small pedicle broken off. While its exact attachment could not be definitely ascertained, it appeared to spring from the inner surface of the dura. The anesthetist noticed that the pulse, which up to this time had been but little above the normal, suddenly became very fast and difficult to count. The dura was now closed with a continuous suture and the muscles brought together with interrupted catgut sutures, leaving a space for a gauze drain down to the dura at the upper and lower extremities of the wound. The skin was closed with silkworm-gut sutures, a secondary suture being used at each end of the drain. In forty-eight hours one gauze drain was removed and in seventy-two hours the remaining one, secondary sutures being tied after removal of the drains. Aseptic healing throughout.

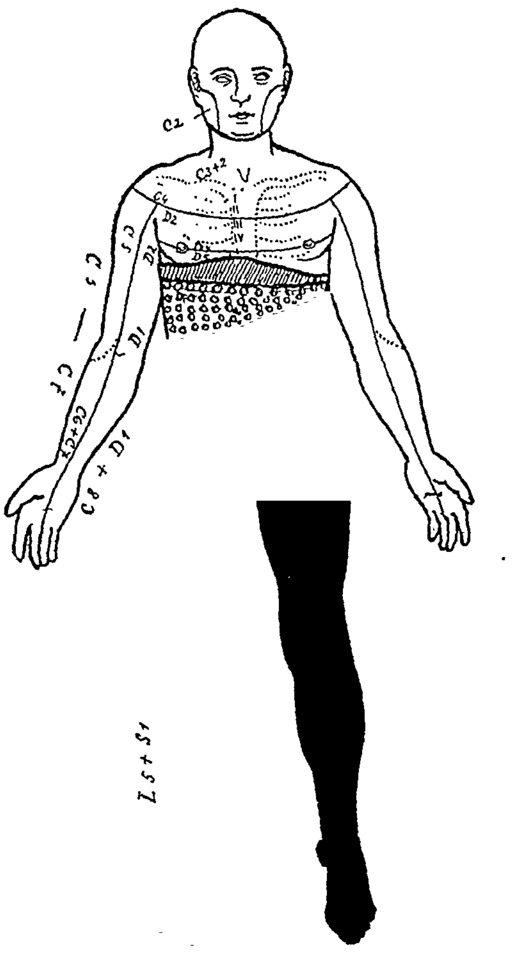

Fig. 1.

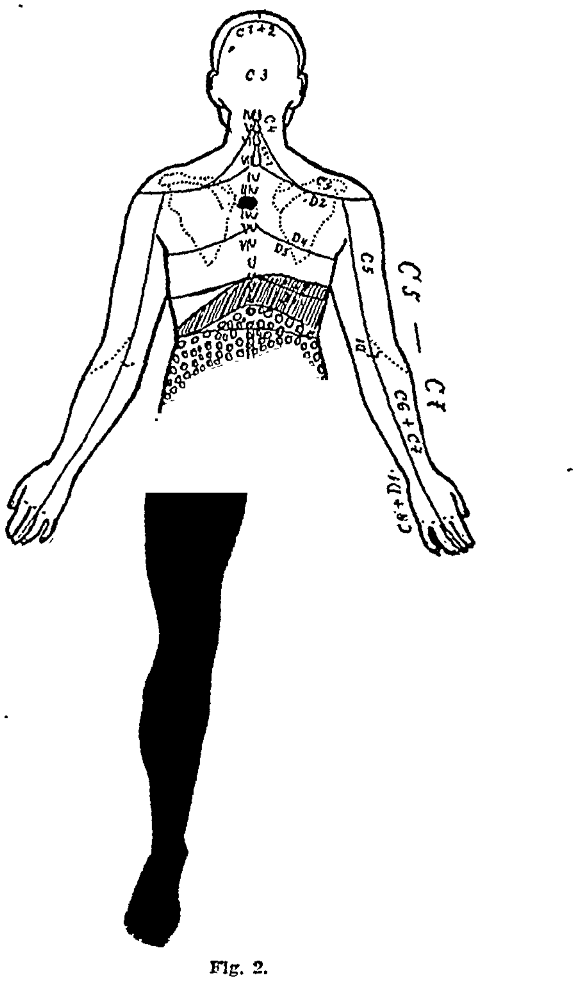

Fig. 2.

Figs. 1 and 2.—In both figures, the black space signifies total loss of all qualities of sensation; the circles indicate loss of thermal and tactile sensation; the shading denotes mere loss of tactile sensation. In Figure 2 (the back view), the heavy dot shows the highest border of the tumor.

Pathologic Report.—When examined macroscopically the tumor appeared reddish-yellow, was rather soft in consistency and measured 3 cm. in length, 0.8 cm. in its widest diameter and 0.2 cm. in thickness. The microscopic examination was made by Prof. F. R. Zeit, of the Department of Pathology at Northwestern University Medical School, who kindly reported on the tumor and pronounced it a typical fibromyxoma.

Postoperative History.—Immediately after operation the patient complained of severe pain in the back and over the entire lower half of the body. The pains somewhat subsided after two or three days and then became localized in the back and legs, where they remained for several weeks. Improvement occurred in the following order: Within twenty-four hours after operation the temperature sense showed signs of recovery; it was noted that hot-water bottles applied to the feet caused a disagreeable sensation. In less than a week after the operation the patient experienced a feeling of discomfort from a full bladder. Within two weeks she could distinguish between extremes of temperature. After three weeks painful stimuli, such as pin-pricks, were perceived as disagreeable. Tactile sensation and fine discrimination, as well as correct localization, of touch were very slow in returning. It was probably one year before the patient's sense of position and fine localization of touch were restored to normal. Although perfect recovery of all forms of sensation occurred within the period stated, it was quite different with motion. It will be recalled that the patient was completely paraplegic at time of operation; all motion in legs and toes was entirely abolished. Signs of return of motion appeared about six weeks after opertion. She could then flex the left big toe; somewhat later she gained control over the small toes of the left foot. Slowly and only after many months did a slight degree of motion return in the feet, but the thighs and legs remained spastic. For a long time one could still see the spasmodic movements of the legs on the thighs, which would only with great difficulty be passively extended. This condition gradually improved, but the patient never walked again.

Repeated examinations, made at intervals of three months each, revealed practically the findings as stated.

An examination made Feb. 20, 1909, showed: Good physical condition. Sensation and sphincters perfect. In the sphere of motility considerable improvement was noted; the patient could now use the feet and legs in operating a sewing machine several hours in succession. She was also able voluntarily to flex the legs against the thighs, full length. Flexion and extension of feet and toes could be performed fairly well. With some effort extension of the left leg was possible with the thigh flexed; extension of the right leg with the thigh flexed was only partial. For a few moments she could stand when supported by her upper extremities. She had not attempted the use of crutches because of her present faith in Eddyism, which forbids the use of such physical artificial aids.

Examination on May 22, 1909, yielded practically the same findings as previously. She had been persuaded to try crutches, but they did not sustain her weight, owing perhaps to her inability to extend the legs completely, slight contractures having formed in the knee joints. By means of orthopedic measures I believe her condition may be considerably improved.

REMARKS

The case presented a typical classical picture of intradural tumor in the upper dorsal cord, not unlike the first case with successful operation by Victor Horsley.[1] In that case, however, the neuralgic state was protracted over a period of four years, from 1884 to 1887. In this case the period of root-irritation lasted seven or eight months. The pains, for a time at least, were distinctly localized on the right side, and, as the tumor enlarged in width, pains also appeared on the left side. Eight months later cord symptoms were very much in evidence, and, as in other cases, the most vulnerable motor tracts suffered before the more resistant sensory strands. A further similarity of this case with that of Gowers-Horsley is seen in the fact that the tumor on microscopic examination proved to be a fibromyxoma; but in this case, unlike theirs, the tumor had grown rapidly.

Considering the final outcome, how should this case be classified?

According to Collins,[7] it will have to be classed with the partially successful cases. In Collins' excellent article on spinal cord tumors he notes that an operation is considered successful when there is cessation of pain and recovery of motor power; partially successful when there is relief from pain, cessation of progress of the case, and slight regain of motor power; unsuccessful, when followed by death within a few weeks. This patient showed complete recovery of sensory functions, some regain of motor power and no return of symptoms two and a half years after operation.

Had the case been diagnosed before degeneration occurred in the motor tracts it would in all probability have found a place among the completely successful cases. From the history it is apparent that a positive diagnosis of spinal tumor could have been made at least three months before operation, yet ten weeks had been lost in treating the patient for syphilis. This is all the more regrettable since we know that gumma of the cord membranes is rare, and when found should be treated surgically the same as other tumors.

In a perusal of the recent literature on spinal tumor we discover—in marked contrast with the earlier publications—that cases are now diagnosed and patients operated on much earlier than formerly, with the inevitable result that the percentage of recoveries is becoming larger. Recent conservative estimates place the proportion of partial and complete recoveries after operation at 50 per cent. This has become possible only through the combined efforts of neurologists and surgeons, the former of whom have made spinal localization comparatively easy, while the latter have simplified and improved the surgical technic.

The wide interest which is at present being taken in surgical neurology is largely a result of the awakening to the possibilities of surgery, particularly of the peripheral nerves and spinal tumors. Already in 1895 M. Allen Starr,[8] after analyzing 123 tumors of the cord, argued that an early diagnosis of spinal tumor was possible; that removal could be accomplished without injury to the cord; and that the operation itself was not one of great danger. He considered that in nearly 75 per cent. of cases spinal tumors could be operated on successfully and he expressed the opinion that future statistics should show recovery in a much larger proportion of the cases than they did at that time. Considering that Bruns[9] in 1897 could collect only 20 cases of spinal tumors operated on, and Bregman[10] as late as 1906 could find only 50 cases of operation, it was remarkable that Stursberg[11] in his report could make the statement that up to 1908 he had already been able to collect 119 observations of extramedullary tumors operated on, in which diagnosis was proved either by operation or by autopsy. In the same year E. Flatau and N. Zylberblast,[12] who conjointly reported a case, estimated the total number of published cases of extramedullary tumor with operation to be 136, of which number 106 were intradural or extradural tumor, while 29 were cases of tumors originating from or extending to the vertebræ. It is noteworthy that Schultze[4] alone in 1907 could report on 14 cases with operation, in which number 6 patients made perfect recoveries and 2 showed improvement. Oppenheim[5] in the same year reports practical recovery in 4 out of 9 cases with operations in which he had made a correct localizing diagnosis.

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[7] Collins, J.: Spinal Cord Tumors, Med. Rec., 1902, p. 882.

[8] Starr, M. Allen: Tumors of the Spinal Cord, Am. Jour. Med. Sc., 1895, p. 614.

[9] Bruns: Die Geschwülste des Nervensystems, 1897.

[10] [illegible] nik und zur operativen Be- [illegible] Deutsch. Ztschr. f. Nervenh., [illegible]

[11] Stursberg: Die operative Behandlung der das Rückenmark und die Cauda comprimirenden Neubildungen, Centralbl. f. d. Grenzgeb. d. Med. u. Chir., 1908, Nos. 3 and 7.

[12] Flatau, E. and Zylberblast, Frl. N.: Beitrag zur chirurgischen Behandlung der Rückenmarkstumoren, Deutsch. Ztschr. f. Nervenh., 1908, xxxv, 334.

In spite of the great activity displayed in this branch of surgery during the last ten years, the total number of cases with operations up to date has not exceeded 150. And of this number the percentage of recoveries has only risen in the hands of the most expert surgeons when working conjointly with neurologists.

As for the total number of complete recoveries in cases with operation, Harvey Cushing,[13] who reports a case of his own with complete recovery, in 1904, could find only 10 other successful cases. But already in 1908 R. T. Williamson[14] found 51 published cases of meningeal spinal tumor in which operation was successful and had been followed by complete or almost complete recovery from spinal symptoms.

Several reasons have been advanced for the few recoveries so far recorded. One is that spinal tumor is not always easy to diagnose and localize; a failure to find the tumor usually means death by further inaction. A second important cause for failure is the discovery on the operating table that a correctly localized tumor is inaccessible, hence irremovable, as are most intramedullary and vertebral tumors. And, last but not least, the danger to life during and after operation is still great. While, therefore, by no means underestimating the dangers and pitfalls of surgical interference I am in thorough agreement with those who recommend exploratory laminectomy even in those instances in which the diagnosis is only probable. There should be less unwillingness on the part of the patient to consent to an operation if he is told that inaction will almost invariably destroy his life.

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ABSTRACT OF DISCUSSION

DR. PEARCE BAILEY, New York: I think we have a good many lessons yet to learn in the surgical treatment of spinal cord tumors. If one reads the list of cases in which the patients were successfully operated on, and those in which the operation has not been successful although the tumor has been found, the conclusion is inevitable that we ought to have a very much higher percentage of cures in these cases than we have at present. Many patients die of shock and sepsis and, I believe, from loss of cerebrospinal fluid. I am much in favor of doing operations in spinal cord tumors with the patient's head down, so that the loss of cerebrospinal fluid can be controlled. In a patient operated on in St. Luke's Hospital a short time ago, by Abbe, the tumor was found where we thought it would be. The operation was skillfully performed. There is no better operator for spinal cord tumors than Dr. Abbe; the operation took only 40 minutes; there was no hemorrhage, no infection, and yet there was considerable loss of cerebrospinal fluid. The operation was done on a horizontal table. Within a few hours the temperature began to rise and rose steadily to 103 degrees and 105 degrees, and within about 18 hours after the operation the patient died with a temperature of 107 degrees, with absolutely no infection and no cause discoverable except the loss of cerebrospinal fluid. I think this operation is a grave and serious one and very hazardous to life, and I think it should be undertaken with every precaution.

Dr. Grinker says that the surgeon in his case started by taking out 5 laminæ. I do not see any reason for that. I try to get the surgeons who operate for me to limit themselves in the start, if they will trust my localization, to two laminæ. And then it is easy enough to take out others if necessary. At first remove two laminæ, and then examine, and possibly the tumor will be found in one extremity. Then it is time enough to take out the extra lamina; and 3 is generally enough for the expression of the tumor. I think it is very important, because many patients die of shock, and the operation should be limited to as small an area and done as quickly as possible. In regard to localization I have found useful in the dorsal region Horsley's old rule of 10 cm. above the superior line of anesthesia, however slight the anesthesia may be. We seldom find in spinal cord tumors the profound anesthesia we find in transverse lesions from other causation, and consequently I take as my limiting line the slightest blunting of anesthesia. I think also that we should not refuse this operation simply because we are unable to decide whether the tumor is in the vertebræ or extradural or intradural, or even intramedullary. I know of no absolute means of deciding definitely on any one of these conditions. Thermo-anesthesia is no index. Over and over again, meningitis, tumors of the vertebra and tumors of the membranes have caused dissociation of anesthesia. I have seen many operations given up because the anesthesia was disassociated. I think it is a mistake. Even if exact localization can not be made I think the operation should be undertaken promptly and independently of the situation of the tumor with reference to the cord.

DR. MAX MAILHOUSE, New Haven: I want to endorse Dr. Bailey's statement with regard to the dissociation of sensation being due to spinal cord or spinal tumors. I recently had a case of recurrent carcinoma about and in the spine, which resulted in the spine forming a knuckle and pushing the cord to one side, in the middle cervical region, in which an early symptom was disassociation of sensation in addition to severe pain and marked spasm of the muscles, so intense that the case at first resembled a case of spondylitis; but one of the early symptoms, as I said before, was disassociation of sensation; and this disassociation, preservation of tactile sense, with diminution of pain and temperature sense, was very striking in this case.

DR. CHARLES W. HITCHCOCK, Detroit: I recall an interesting case which was presented to the Detroit Neurological Society last November by Drs. Inglis of Detroit and Klingmann of Ann Arbor, the findings of Dr. Inglis, who had seen the case, not being known to Dr. Klingmann. Dr. Klingmann accurately diagnosed the segments involved and the position of the tumor, and it was my good fortune to be present a week later at the operation performed by Dr. Max Ballin of Detroit. As in the case reported, too low a laminectomy was made in the hope of finding the tumor lower down, neglecting Chipault's rule of subtracting two from the determined segment, in the upper dorsal region, to find the exact spinal vertebra. The tumor was found just as Dr. Klingmann had diagnosed it, involving the sixth, seventh, and eighth dorsal segments. The tumor was removed, the patient did well, and the sensory and motor symptoms were both very much improved at the last report.

DR. M. ALLEN STARR, New York: My experience in spinal cord tumors is quite extensive, and I consider the diagnosis a comparatively easy one. I think that the typical symptoms appear so definite and distinct in these cases that there is hardly any danger of mistaking them for anything else. Early operation is essential and in two cases recently the question of whether the patients were syphilitic was decided by the Wassermann test. Finding the cerebrospinal fluid and blood absolutely negative, we avoided the supposed necessary delay of attempting to use mercury and iodid, as has been done so often. In my last case I first saw the patient on Saturday afternoon and the operation was done the following day. The tumor was found. The patient is recovering nicely and regaining power over and control of bladder and rectum that were absolutely lost when I saw her. The paraplegia is passing off. The excessive pain is, of course, the very most important symptom in these cases. I know of absolutely no condition resembling it in all respects except caries of the spine, and that, of course, can often be ruled out by physical examination, or certainly by an x-ray examination.

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[13] Cushing, Harvey: Intradural Tumor of the Cervical Meninges, Ann. Surg., 1904, xxxix, 934.

[14] Williamson, R. T.: Diseases of the Spinal Cord, 1908.

The point is well taken by Dr. Bailey that the success in the operative interference with these tumors depends, first, on the avoidance of shock; secondly, the avoidance of hemorrhage; thirdly, the rapidity of the operation, and, fourthly, the limitation of the operation, so far as possible, to the essential parts. There is absolutely no necessity of making very large incisions in these cases. Horsley has laid down a reliable guide; it consists of measuring 4 inches above the level of the upper faintest trace of sensory disturbance, and by that I think the sensations should be tested always from below upward. I wish to make it very clear that a patient who is tested from above downward does not notice the little disturbance of sensation, a little loss, as you go down, but a patient with a disturbance of sensation if you get to the lower part and come up will immediately notice the improved sensation; 4 inches above the upper line you are pretty sure to find your tumor. Therefore, I think two laminæ are ample, the surgeon always having made his preparations to lay bare the lamina above if he fails to find the tumor under the two laminæ that are taken out. The tumor can not be taken out by simply dividing one lamina; two must be removed in order to give room for the enucleation of the tumor. So far as I have seen, these tumors have to be carefully elevated and enucleated in their removal. It seems to me that the prognosis in these operations is constantly becoming better.

Dr. Julius Grinker, Chicago: Much as we may dislike it, surgeons are still laboring under the antiquated idea that myelitis is largely syphilis of the cord, and not until they have subjected the patient to a course of rigorous antispecific treatment do they decide to operate. I believe that we should urge exploratory laminectomy in suitable cases, and that we should discourage the routine administration of antisyphilitic remedies, which are useless in spinal tumor and merely permit irreparable damage to be done to the cord structures, as in the case which I reported. I fully agree with Dr. Bailey that as few laminæ as possible should be removed, but certain exigencies will necessitate the removal of several laminæ. I think the danger from loss of support to the spinal column has been exaggerated. In my case four laminæ were removed, yet there is not the slightest sign of wakening in the spinal column.

THE ENDOMETRIUM AND SOME OF ITS VARIATIONS*

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AND
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It is surprising to note how few sharply defined and generally accepted facts have been crystallized out of the great amount of work which has been done on the histology and pathology of the endometrium. The numerous classifications of endometritis, for example, are ample evidence that none is entirely satisfactory, while some, as a matter of fact, are little short of absurd. Particularly unfortunate have been the attempts to classify endometritis along clinical lines, and it seems to have been decided that the most satisfactory or, at any rate, the least unsatisfactory basis for classification is a histologic one.

In this brief communication we propose first to present the results of our studies on the normal histology of the endometrium, with especial reference to the modifications thereof which are associated with the menstrual cycle. It is not our intention to take up a consideration of the various diseases of the endometrium, except in so far as our conception of these diseases may be influenced by our knowledge of normal variations in the structure of the uterine mucosa.

Our general study is based on the microscopic examination of the uterine mucosa from over 200 cases in the gynecologic clinic of the Baltimore City Hospital during the past three years. In the majority of these cases the mucosa was obtained by curetting, in a smaller number by extirpation of the uterus for one reason or another. In all cases the material was fixed immediately after removal, and the stain employed, with few exceptions, was the ordinary hematoxylin-eosin method.

In order to study the menstrual phenomena there was selected from the entire number of cases a series of 50 in which an accurate record of the menstrual history was available, including the date of the menstrual onset and usually of the termination of the period preceding the operation. In some of this group the material was obtained by routine curetting in connection with plastic operations of one form or another, there being no evidence of uterine disease. In other cases the mucosa was obtained from cases complicated by various associated conditions, such as myoma, salpingitis, displacement, etc., although no case was admitted to the series unless the regularity of the menstrual cycle was undisturbed.

In the main, therefore, the conditions surrounding our work have been similar to those under which was carried on the valuable work of Hitschmann and Adler,[1] to which we shall have frequent occasion to refer.

In order to appreciate the change which recent investigations have produced in our conception of the normal structure of the endometrium one need only read the descriptions contained in the various text-books of gynecology and anatomy. In the usually accepted sense the endometrium is the corporeal portion of the uterine mucosa, i. e., the portion above the level of the internal os. It is usually described as consisting of a surface epithelium, glands, and an interglandular tissue or stroma. The epithelium is of the ciliated columnar variety, differing from that in the cervix in that the cells are not so tall and slender, that the nuclei take on a paler stain and are situated near the center of the cells instead of near the basement membrane, and that the protoplasm takes on the eosin stain, while that in the cervix not [illegible] a pale hematoxylin stain on accoun [illegible] amount of mucus which it contains. The glands are described as being of the simple or branched tubular variety, being lined by epithelium continuous with and similar to that of the surface. The stroma, according to most authors, consists of a delicate reticular network of fibrillar connective tissue containing in its meshes large numbers of round, oval, or spindle-shaped cells. At the present time there is no unanimity of opinion as to the exact nature of the stromal tissue. Nagel[2] and Waldeyer[3] believe it to be of a lymphoid type and compared it to the stroma of the intestinal mucosa. Leopold[4] regarded it as a spread-out lymph gland (*Lymphdrüsenfläche*), while Johnstone[5] believes that it is of an adenoid type. Most of the best authorities, however, accept the view of Minot, that the stroma is merely a form of embryonic connective tissue, and this is probably the correct one.

From a physiologic standpoint the endometrium bears an important relation, whether active or passive, to the function of menstruation, and it would be interesting, if time permitted, to trace the various views which have at different times been held as to the changes which take place in the endometrium at the time of menstruation.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

1. Monatsh. f. Geburtsh. u. Gynäk., 1908, xxvii, 1.
2. von Bardeleben: Handbuch der Anatomie des Menschen.
3. Quoted by Williams: Text-Book on Obstetrics.
4. Arch. f. Gynäk., xi.
5. Brit. Gynæc. Jour., November, 1886.

Unfortunately, up to recent years, the extent of these changes had been gauged largely by the comparative study of menstruating and non-menstruating uteri, and there had been no systematic effort to study the histologic structure of the endometrium from the beginning to the end of the menstrual cycle. Within the past few years, however, an important contribution to our knowledge of this subject has been made by Hitschmann and Adler,[1] whose work bids fair to revolutionize our former ideas of the histology and pathology of the endometrium. These observers, after a painstaking study of the uterine mucosa from fifty-eight women at various periods of the menstrual cycle, found that the endometrium, from the cessation of one menstrual flow to that of the next, presents a constantly-changing histologic picture. This cycle of changes they divide into four phases: postmenstrual, interval, premenstrual, and menstrual.

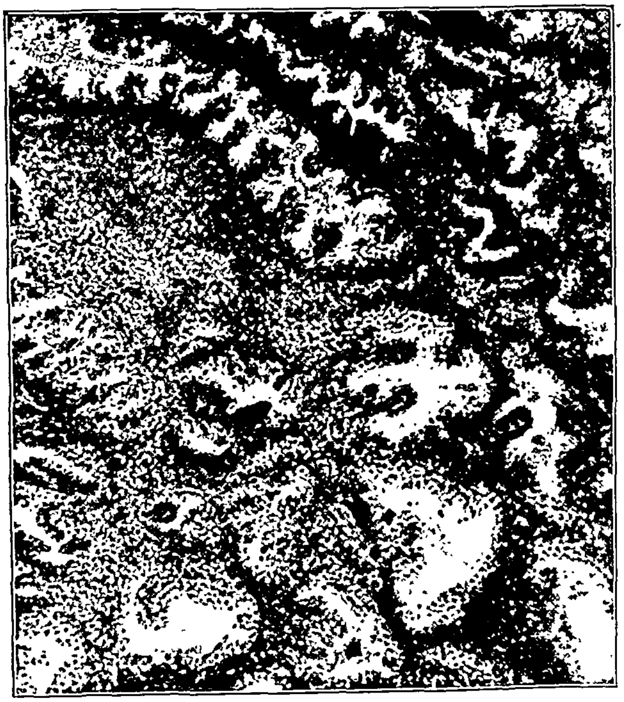

Fig. 1.—No. 749 (low power). Showing premenstrual gland changes. Note the increase in size and tortuosity and "saw-like" appearance of the glands. Curetting done one day before menstruation.

At the height of the menstrual flow the mucous membrane diminishes in thickness and the glands pour out their secretion, becoming narrow and straight. The surface epithelium is frequently lost, but this is not an invariable rule. After the period there takes place a very rapid cell growth in both the epithelium and connective tissue. The glands become larger and wider, although still quite narrow and straight. The epithelium is low and in a condition of rest. By about the fifteenth day the cell growth of the epithelium has progressed to such an extent that the glands become somewhat tortuous, and often assume a spiral or corkscrew-like appearance. Finally, six or seven days before the beginning of menstruation, the glands rapidly enlarge and become tortuous, the cells bulge into the lumen, the epithelium becomes higher and broader, and the lumen is filled with a mucous secretion. These gland changes are much more marked in the deeper portion of the mucosa than in the superficial, so that there is produced a well-marked differentiation into a superficial compact and a deep spongy layer. In this respect there is a marked similarity to the appearance of the young decidua, the resemblance being increased by the fact that the interglandular stromal cells in many cases assume an appearance very similar to or approaching that of decidual cells.

The important work of Hitschmann and Adler has attracted a great deal of attention, and already a number of articles, mostly confirmatory, have been published on the subject. From our own study of the fifty cases selected for this purpose we have been able to convince ourselves of the correctness, in the main, of the conclusions arrived at by Hitschmann and Adler. In our series of 50 cases we found that from a histologic standpoint 13 were to be classified as belonging to the premenstrual group. All of these 13 showed a marked increase in the size and tortuousness of the glands, some exhibiting a high degree of "papillary" formation, others presenting the less advanced saw-like appearance. In 10 of these cases the mucous membrane had been removed at short periods before the beginning of menstruation. In 5 cases the interval was one day (Figs. 1 and 2), and in the other 5 cases it was three, four (Fig. 3) six, seven and nine days respectively. The remaining 3 of the group of 13 cases which exhibited the so-called premenstrual glandular changes are especially interesting in that in all of them operation had been done at a period quite remote from the menstrual period. In one specimen (Gyn. Path. No. 262) the curetting had been performed eight days after menstruation and yet there were many hypertrophic glands throughout the section. As a whole the specimen was not absolutely typical of the premenstrual period, but in certain fields the appearance was quite characteristic. The other two specimens (Gyn. Path. No. 611 and Gyn. Path. No. 717, Figs. 4 and 5) were obtained eleven and ten days respectively after menstruation, and in both the glands presented very decided hypertrophic changes, Gyn. Path. No. 611 especially being typical in every

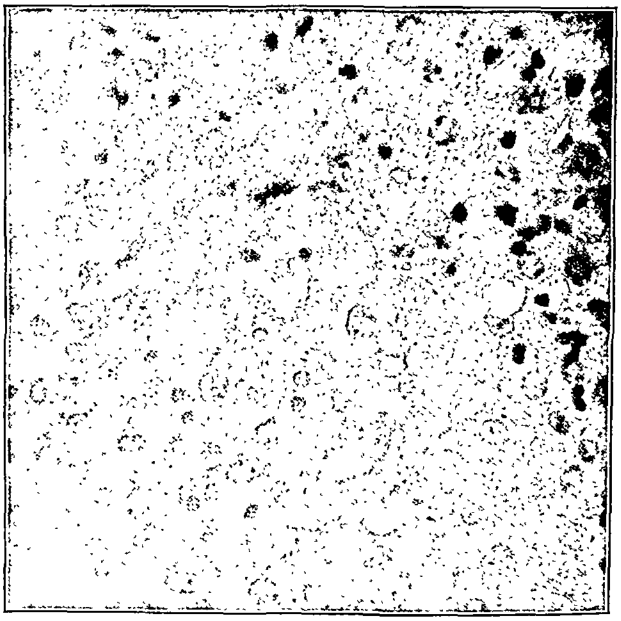

Fig. 2.—No. 57 (high power). Showing decidual transformation of the stromal cells. Curetting done one day before menstruation.

way. Of these three typical cases Gyn. Path. No. 262 was complicated by laceration and hypertrophy of the cervix, a moderate prolapse of the uterus and a small myoma. Gyn. Path. No. 611 was associated with a unilateral salpingitis and Gyn. Path. No. 717 with a laceration of both cervix and perineum.

The fact that premenstrual changes are found at a period so remote from the menstrual epoch, as in these cases, might perhaps be explained on the assumption of an individual peculiarity—as perhaps indicating an unusually early appearance of the glandular changes of the premenstrual period. This seems to us, however, as little more than an evasion of the question, and we feel that a simpler and more plausible explanation can be invoked. In view of the fact that the menstrual process, whatever its underlying cause may be, has as its most striking phenomenon the vascular changes in the reproductive organs, it is not unreasonable to assume that the constantly changing histologic picture in the endometrium is only a result of the influence of the increased blood suply on a very susceptible and readily-reacting tissue. The interesting experiments of Federn[6] and others have shown that the blood pressure of a woman reaches its maximum at the premenstrual period, the onset of menstruation being characterized by a rapid fall, after which the pressure rises gradually again to its high point at the next premenstrual period. The blood-pressure curve is therefore parallel with the histologic changes, and it is only natural to suppose that the latter may be largely influenced by the variations in the blood supply of the pelvic organs at different phases of the menstrual cycle. It seems logical to believe, however, that while the normal physiologic stimulus for the hypertrophy of the uterine glands is supplied by the hyperemia of the menstrual process, the artificial stimulus furnished by a pathologic hyperemia may also produce a greater or less degree of such change. The finding of marked hypertrophy of the uterine glands at other than the premenstrual period may thus be explained, although the factor of individual susceptibility must after all play an important part, for the occurrence of hypertrophied glands even in cases characterized by prolonged pelvic congestion is by no means constant.

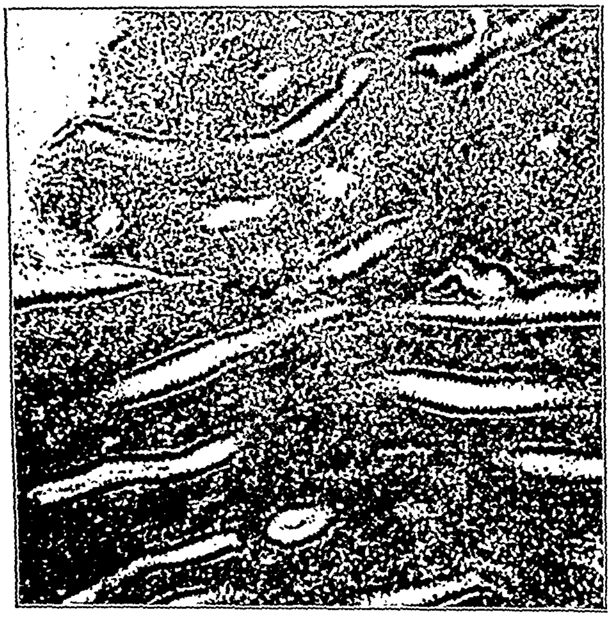

Fig. 3.—No. 647b (low power). Showing the straight collapsed glands of the post-menstrual period. Curetting done four days after menstruation.

Hartje[7] has recently employed the term "*subinvolutio mucosæ menstrualis*" to indicate the persistence of premenstrual glands for the first few days of the regeneration period. This, he suggests, may be due to a deficiency of the retrogressive changes normally occurring in endometrium after the onset of menstruation. We believe that he is correct in his opinion that the occurrence of the premenstrual picture in the period of from nine to fourteen days after menstruation is to be regarded as certainly pathologic.

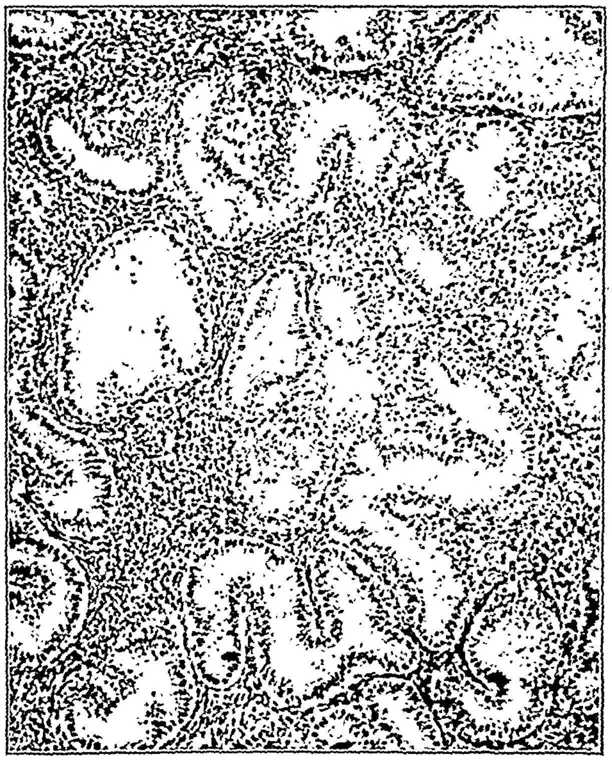

Fig. 4.—No. 611 (low power). Showing so-called premenstrual gland changes at a period eleven days after menstruation. Clinical condition, unilateral salpingitis.

Shickele,[8] in a recent article, also asserts that marked gland changes may occur without any relation to the menstrual process, as a result of uterine disease, adnexal affections, and displacements. In a rather large series of cases characterized clinically by bleeding (menorrhagia or metrorrhagia) in which it was difficult or impossible to determine the menstrual dates, we found marked glandular changes in a considerable number. Concerning this series we hope to report more fully at a later date. Kubo[9] likewise found gland hypertrophy, often very marked, in twelve of the ninety-nine cases of menorrhagia and metrorrhagia.

Whatever the explanation of the occurrence of gland changes under such circumstances may be, therefore, there seems to be no doubt that they may occur, and whether we characterize such changes as glandular hyperplasia or glandular endometritis, their pathologic nature should be recognized. The old rule of Gebhard, that the glands should be considered abnormally numerous if the distance between them is less than four or five times the diameter of the glands, is a very misleading one, for there are marked normal differences in different mucosæ in this respect. Moreover, in the examination of curettings, the microscopic appearance as to this point varies in different portions of the endometrium, and even more at different depths of the mucosa.

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[6] Blutdruck und Darmatonie, Vienna, 1894; quoted by Hitschmann and Adler.

[7] Monatsh. f. Geburtsh. u. Gynäk., 1907, xxvi, 15; Zentralbl. f. Gynäk., 1907, xxxi, 1465.

[8] Beitr. z. Geburtsh. u. Gynäk., 1909, xiii, 358.

[9] Am. Jour. Obst., 1908, lvii, 675.

When one considers the individual variations in different women, with regard to the duration and amount of the menstrual flow, it is only natural that there should also be rather wide variations in the degree of gland change, exhibited at the premenstrual period.

As Hartje has pointed out, there is a gradual progression from the straight collapsed gland of the premenstrual period to the gland type of maximum differentiation—the gland with papillary outgrowths and secondary alveoli. In the most marked cases the glands of the deeper layer are markedly widened, the stroma is diminished so that the glands are almost in contact, and the epithelium is swollen with secretion. Many of the glands show well-marked papillary projections into the lumen, or in the less marked cases take on merely a saw-like appearance (*sägeförmige Drüsen*). Such glands as these were at one time considered pathognomonic of pregnancy (Opitz[10]), although the recent investigations of Hitschmann, Leitz,[11] Schwab[12] and others have shown clearly that this is not the case. The last named observer, for example, in an examination of a series of 41 curettings, found Opitz's "pregnancy" glands in 5 women, and, of these 5, only 1 was pregnant, the other 4, however, having a definite relation to the menstrual process—3 premenstrual and 1 menstrual. We have repeatedly seen such glands in the premenstrual mucous membranes of non-pregnant women. According to Hartje, the maximum gland changes, with papillary formation, etc., are seen in about one-third of the cases, the remainder showing merely the tooth-like or saw-like appearance characteristic of less advanced stages.

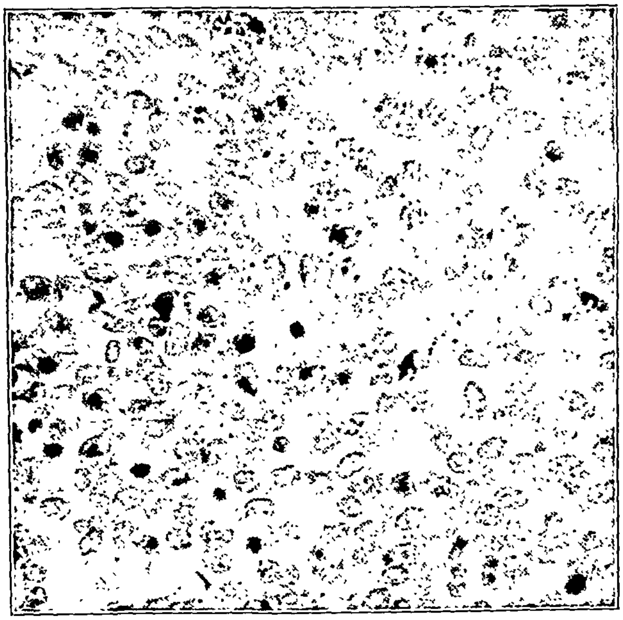
Fig. 5.—No. 717 (high power). Showing decidual transformation of cells at a period ten days after the menstrual period. Clinical condition, laceration of the cervix and subinvolution.

No less interesting than the gland changes of the menstrual cycle are those which take place in the interglandular substance or stroma. As already mentioned, Hitschmann and Adler found that in many cases the stromal cells assume an appearance so like that of decidual cells that there is no possibility of distinguishing them. When one considers that the decidual cell of pregnancy, according to the generally accepted opinion of the present day, is merely the overgrown stromal cell of the endometrium, such findings can scarcely be wondered at. It was Ruge (1880) who first stated that decidual cells may occur entirely independently of pregnancy, but it was not until recent years that the full significance of this view has come to be recognized.

In our series of 50 cases there were 4 in which the decidual modification of the stroma cells was sufficiently marked to be conspicuous. All of these occurred among the group of 13 cases in which the glands exhibited premenstrual changes. Among them, however, was one (Gyn. Path. No. 717), already alluded to, in which operation was done only ten days after menstruation, so that from this it would seem that other influences than normal menstruation may perhaps be capable of producing a decidual modification of the stromal cells.

A number of observers, notably Löfquist,[13] have found decidual cells present to a more or less marked degree independently of pregnancy, in association with such conditions as adnexal disease, tumors, displacements, etc. In most cases, unfortunately, the value of such observations is lessened by the failure of the authors to recognize the possible influence of menstruation in producing a decidual modification of the stromal cells. In a few of the recent reports, such as that of Goodall, however, this possibility seems to have been borne in mind, and it is quite probable that the stromal changes, as well as the gland changes, may be brought about by various conditions other than normal menstruation, such as inflammatory disease, displacements, tumors and tuberculosis. This would seem to be in keeping with the biologic law that the natural result of over-nutrition of tissue is overgrowth.

As in the decidua of pregnancy, the stromal changes of menstruation are seen most conspicuously in the superficial compact layer of the endometrium, these changes being just as characteristic of the premenstrual period as are the glandular phenomena already described. Like the latter, they reach their highest development just before the beginning of the menstrual p[illegible] to Hartje, the decidual-like cells ([illegible] *Zellen*) are seen in about one-third of the premenstrual cases. All stages of development are seen, from the normal stroma cell, which contains practically no protoplasm, to the typical decidual cell with its large oval nucleus surrounded by a well-marked protoplasmic area.

Even those who maintain that there is an essential difference between the decidua-like cells of menstruation and the true decidual cells of pregnancy have not been able to define wherein the difference lies. The conclusion is forced on us that the modified stroma cells of menstruation (*Uebergangzellen*) are simply different stages in a series in which the true decidual cell represents the maximum development. As Löfquist says, all the commonly observed changes in the endometrium may be regarded as the response of tissue to stimulation —as varying degrees of what has been called the "decidual reaction."

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[10] Ztschr. f. Gynäk., xlviii.

[11] Ztschr. f. Gynäk., l.

[12] Ztschr. f. Gynäk., 1904, p. 1425.

[13] Zentralbl. f. Gynäk., 1901, xxi, 552.

Such observations as these throw a new light on the question of membranous dysmenorrhea. We have in our work observed two cases in which the membrane expelled from the uterus on microscopic examination showed the presence of characteristic decidual cells, even though, in the light of the clinical history, there was little or no possibility of pregnancy. Many similar cases have been recorded, and, with our knowledge of the extent of the menstrual phenomena in the endometrium, they are not so difficult to explain. Such cases are no doubt due to a throwing off of the superficial layers of the endometrium at the menstrual period, in a manner analogous to the expulsion of a true decidua. The exact cause and the mechanism of the process are still uncertain. The fact that dysmenorrhea membranacea is associated with an extensive shedding of the endometrium would not, however, seem to be a justification for the generalizing assertion advanced by some that such a loss of tissue is the rule in normal menstruation. The early writers, especially Kundrat,[14] believed that menstruation is attended with such extensive or even complete loss of mucosa, but the investigations of Gebhard and others seemed to demonstrate that, as a rule, there is very little loss of tissue during the process. More recently Hitschmann and Adler,[15] Ehrenfest,[16] and others have asserted that the views of Gebhard are not correct, and that there is often a considerable loss of substance during menstruation. The question, however, is still far from being definitely settled, and it is probable that there are marked individual variations in different cases.

The important bearing of this knowledge of the histologic changes corresponding to the various phases of the menstrual cycle can scarcely be overestimated. It at once places an interrogation mark after such terms as endometritis glandularis hypertrophica and endometritis glandularis hyperplastica, and deals a final blow to the early belief in the pathognomonic importance of the decidual cell in the diagnosis of pregnancy. While we are convinced of the correctness of the observations of Hitschmann and Adler on the changes which take place in connection with the menstrual cycle, we feel that their division of the cycle into phases is too schematic for ordinary use, and we do not believe that, as these writers assert, the changes characteristic of the various phases are so sharply defined that the time relation of the endometrium to the menstrual process can be determined from the microscopic picture "with accuracy and often to the day."

Finally, from the study of our own cases and from the reports of other authors, we believe that Hitschmann and Adler have taken an extreme view in practically asserting that glandular changes do not occur except in connection with the menstrual process. Both animal experimentation and clinical observation indicate that the actual underlying cause of menstruation is the secretory activity of the ovary, which produces an internal secretion or hormone essential for its occurrence. The principal effect of this substance seems to be of a vasomotor nature, and is exerted especially on the pelvic blood vessels. It is only natural to suppose that the endometrium plays a purely passive rôle in this phenomenon, and that the histologic changes observed in connection with menstruation represent merely the reaction of the endometrium to the process—a reaction which may, however, be elicited by other influences than that of normal menstruation.

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ABSTRACT OF DISCUSSION

DR. HENRY O. MARCY, Boston: Twenty years ago I translated the works of Prof. G. B. Ercolain of Bologna, Italy, who commences his studies in the lower animals, showing that nature during the whole reproductive life is making ready for the continuation of the species. His work shows clearly from his standpoint that there is a process in every menstruation leaving a new mucous membrane with a new possibility of a reproduction of a new material for the development of the species, and that only in this way is impregnation possible. The placenta, in all animals, including the human species, consists of two distinct, fundamental parts, the fetal portion being vascular and absorbent, the maternal, glandular and secretory. In no case do the vessels of the mother anastomose with the vessels of the fetus. The transformation which the uterine mucous membrane undergoes during pregnancy produces the neoformation of a transitory glandular organ of secretion, constituting the material part of the placenta.

DR. JOHN G. CLARK, Philadelphia: It is gratifying to know that laboratory workers in America have taken up the interesting studies of Adler and Hitchens for verification or elaboration. Three years ago this section appointed a committee whose duty it was to offer a simplified nomenclature for endometritis. Great difficulty was encountered in arriving at conclusions, either from the clinical or histologic standpoint, for each writer was inclined to base his nomenclature on personal observations rather than on a uniform conception of this subject by the clinician and histologist. In the light of present investigations it is apparent that this failure in unanimity of opinion is due to the fact that the cyclic changes of the endometrium incident to the menstrual epoch were not then recognized. According to the investigations of Adler and Hitchens, which apparently Drs. Gardner and Novak have largely sustained, the tiny uterine glands, which are collapsed and almost straight immediately after menstruation, go through a definite evolutionary process, during which they increase in size, capacity, and histologic hypertrophy. In view of these cyclic changes it is evident that many of the discrepancies which have been noted by various histologists may be ascribed to the difference in the size and constituence of the glands during the twenty-eight day epoch. Many clinicians have looked askance at a histologic diagnosis, particularly when their clinical sense has been opposed to malignancy. I have always taken the ground that a careful clinical diagnosis is worth more than an inefficient histologic study, especially if the microscopist is not particularly skilled in this special line of pathology. I am sure that many uteri have been removed under the suspicion of malignancy in cases in which what was taken for hypertrophy of the glands or early malignancy was merely due to physiologic changes.

Clinically, therefore, I am sure that this most interesting study, which has been so well presented by Drs. Gardner and Novak, will have a very beneficial effect in the further histologic simplification of the changes in the endometrium. If the microscopist takes into account these changes, and if we, as clinicians, are careful to indicate to him the date of the operation as related to the last menstrual period, we will not lay him open to the error of sending back word to us that the glands are hypertrophied or suspicious of malignancy, when they are merely undergoing physiologic changes. The classification of endometritis will also be greatly simplified and placed on a more scientific basis by these careful studies.

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[14] Med. Jahrb., Vienna, 1873.

[15] Monatschr f. Geburtsh. u. Gynäk., 1908, xxvii, 200.

[16] Am. Jour. Obst., 1908, lviii, 412.

No Medicine Ads in Street Cars.—The New York City Car Advertising Company, which has control of advertising space in the New York City surface cars, has announced that no "patent medicine" or cure advertising will be accepted. This item is respectfully referred to those newspapers which continue to carry in their columns the advertisements of the "master specialists" and others of like ilk, which are manifestly calculated to deceive and defraud their readers.—*Bulletin of Illinois State Board of Health.*

MYIASIS INTESTINALIS DUE TO INFECTION WITH THREE SPECIES OF DIPTEROUS LARVÆ*

E. F. McCAMPBELL and H. J. CORPER
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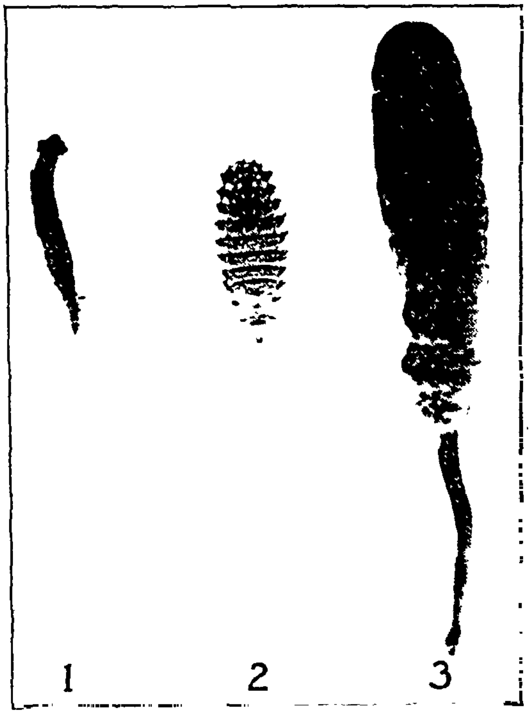
Infections of man by the larvæ of dipterous insects (myiasis) are very infrequent, although such infections have been known to occur since the early history of medicine. Gilbert[1] reviews the history of infections of this kind in a recent article and calls attention to some of the earlier observations.

Myiasis occurs both within the body and on its external surfaces. Thus we have myiasis interna and myiasis externa. In the former should be included those cases in which the fly larvæ invade the dermis and subcutaneous tissues (myiasis hypodermatis) and those in which they invade the intestines (myiasis intestinalis). In the latter should be included those cases in which the larvæ invade wounds and open abrasions of the epidermis and dermis (myiasis dermatosis).



Larvæ isolated from case of myiasis intestinalis; (1) *Musca domestica*; (2) *Anthomyia canicularis*; (3) *Eristalis tenax*.

REPORT OF CASE

The case which we report is one of myiasis intestinalis from which three separate and distinct species of larvæ were isolated and is the only one in medical history, as far as we can determine, in which a mixed infection has occurred.[2]

History.—Mrs. McL., native of Ohio, resides on a farm, widow, mother of ten children. With the exception of two, all her children are deceased, some dying of infantile infections and two in later life of tuberculosis. The patient was in good health until the age of 57 (fifteen years ago), when she developed an acute catarrhal gastritis. The gastric trouble has since persisted. The patient has been under medical treatment almost continually since. At the age of 65 she began to pass "millions" of small green larvæ and a smaller number of white jointed larvæ which, the patient states, are similar to those recently passed. This attack of myiasis lasted about one year and the patient noticed nothing more of the larvæ until the age of 70 (two years ago), although there was no improvement in her health. She became very much emaciated during this period of five years. The larvæ have been intermittently passed in large numbers during the last two years and still persist. The patient noticed that during the last two years much larger organisms were passed in addition to those noted five years previous. She describes these organisms accurately and states that they are frequently twice the size of those which we have recently obtained. The patient states that she has had a continual feeling of distress in the abdomen since the attack of gastric trouble at the age of 65. The abdomen frequently becomes distended and colicky pains in the epigastrium have occurred at irregular periods. The larvæ, she states, are usually passed in a watery discharge and few, if any, have ever passed in the ordinary stools. Attacks of nausea and vomiting have occurred at irregular intervals since the gastric disturbances at the age of 65. She has never observed any of the larvæ in the vomit. The patient states that at the age of 65 her weight was 180 pounds. She does not associate the infection with the eating of any food and states that she always eats thoroughly cooked and fresh food. She states that the water which she has used has always been pure well-water. The surroundings of the home of the patient show nothing more insanitary than is usually noted about the average farm. Manure piles and flies are abundant.

Present Condition.—The patient, aged 72, weight 90 pounds, is distinctly neurotic, anemic and much emaciated. The abdomen is slightly distended and tender on deep pressure. The patient states that there is a constant ache throughout the abdomen. The pain seems to be partially localized in the epigastrium. Occasional colicky pains occur. The patient is constipated and does not have intestinal passages unless induced by cathartics. For this purpose she has used Epsom salts almost exclusively. At irregular intervals she passes large numbers of larvæ (250 to 500 c.c. fluid containing as many larvæ as possible). The larvæ are not passed in the usual stools but in a watery discharge. The patient states that a great amount of abdominal pain precedes the passage of the larvæ. Cathartics and aperients have failed to eliminate the larvæ from the intestines. Examination of the circulatory system shows a well-marked mitral lesion and rather advanced arteriosclerosis. The respiratory system is negative except for a slight nervous dyspnea; respirations, 25; pulse, 90. Genito-urinary system and urine are negative. The patient is easily nauseated and frequently vomits. She is confined to her bed the greater part of the time and is quite weak. The appetite is absent and the diet almost entirely liquid. Well-marked mental abberrations in regard to the activity of the larvæ within the intestines are noted.

Parasites.—The larvæ which we have examined, some of which were still alive, were passed three days previous to the time we obtained them. They proved to be those of the following species of dipteræ: *Anthomyia canicularis*, the small black flower- or house-fly; *Musca domestica*, the common house-fly; *Eristalis tenax*, the drone or flower-fly.

As myiasis has been noted due to each of these species they will be briefly considered.

THE INFECTING ORGANISMS

Anthomyia canicularis.—This is the common small black house-fly or flower-fly. The family of flies to which this species belongs *(Anthomiidæ)* is composed of a large number of species and the larvæ feed almost universally on decomposing vegetable matter, growing plants, and some few species on the eggs of the grasshopper and locust. In Europe *Anthomyia canicularis* has been noted frequenting vaults and is often spoken of as the "privy-fly." The larvæ are elongated in shape, composed of ten segments and measure 1 to 1.5 cm. in length. They are rounded posteriorly and narrow

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* From the Pathological Laboratory of the University of Chicago.

[1] Gilbert, N. C.: Infection of Man with Dipterous Larvæ, Arch. Int. Med., October, 1908, ii, 226.

[2] For the opportunity of study and subsequent diagnosis of this case we are indebted to Drs. V. B. Weller and W. F. White.

toward the anterior end. Each segment possesses a pair of lateral branchiæ, which are used for respiration while the larvæ are in fluid media. Each segment possesses also a pair of prolegs. This species of larvæ were the most prevalent of any passed in the case which we report.

The larvæ of *Anthomyia canicularis* have been reported as parasitic in man probably more often than any other of the dipterous insects. They have been noted to occur in the intestines, ear, vagina, and female urethra. A review of the literature shows about thirty cases of infection with anthomiide larvæ. In about twenty-five cases of these the intestines were infected. Of the total number of cases reported five were in the United States. It is impossible to state just how many of the cases were due to *Anthomyia canicularis,* as frequently the exact species was not determined. It seems that there are about twenty authentic cases of myiasis due to this particular species.

Musca domestica.—This is the common house-fly. The eggs (120 to 150) are deposited in horse-manure almost exclusively, but also occasionally on other excreta and decomposing vegetable matter. After the hatching of the eggs, which occurs in from six to eight hours, the larvæ feed on the decomposing animal and vegetable material. The larvæ are white pointed maggots 1 to 2 cm. in length and composed of nine or ten well-defined segments. Around each segment are a number of short branchiæ, which serve as respiratory organs. The larvæ grow rapidly, molt twice, and reach full size in from four to five days. The pupæ which follow persist for four or five days and from these the adult fly emerges, making a total of eight to ten days for the entire cycle. These flies are thought to pass the winter in the pupal stage.

Comparatively few larvæ of this species have been passed in the case reported. Cases of myiasis with the larvæ of this species are rare, there being only five or six authentic cases in the literature. Some of the other members of the family *Muscidæ* frequently infect wounds, ulcers, the nasal sinuses, ear and occasionally the intestine.

Eristalis tenax.—This is the so-called drone-fly. It is somewhat larger than the honey-bee and shows a marked protective mimicry for this last-named insect. It is a flower-fly and very active. It belongs to the family *Syrphidæ,* of which there are 2,500 species, 300 having been described in the United States. This fly is occasionally observed within doors in the late autumn. The larvæ are famous for their "rat-tailed" appearance. They are found on decomposing animal and vegetable matter and in soft mud. The larvæ measure 2.5 to 3 cm. in length and consist of seven segments, each bearing a pair of tubercles or prolegs. A well-defined head and mouth parts are absent. The anterior end possesses two pairs of hooklets. A long slender projection 2 to 3 cm. in length extends from the posterior portion of the body and this contains a small, contractile tube with breathing pores at the end. This appendage is projected up and is used by the larvæ to obtain air when buried or in fluid media. At times the larvæ are quite active and crawl about.

Cases of myiasis with *Eristalis tenax* larvæ are extremely rare. No cases are recorded in which accurate data are given. It is the rarest of the three species considered in this report.

GENERAL CONSIDERATIONS

The source of the infection in this case of myiasis intestinalis can not be definitely determined. The patient possibly ate the eggs or newly hatched larvæ with food materials. It is not probable that adult larvæ were ingested without the patient's knowledge and we do not think from the examination of the patient that the larvæ or eggs were purposely ingested. Finlaysen's[3] suggestion that the eggs which may be deposited around the anus and the larvæ, after the hatching of the eggs in from six to eight hours, invade the intestine from this source, is credible. We are of the opinion that there has been only one, with a possibility of two, infections in this case. We think that the primary infection occurred seven years ago when the larvæ were first observed. If there was a second infection it must have occurred two years ago at the time the occurrence of the large number of the larvæ was noted. We do not know but that larvæ may have been passed during the interval. At the time the larvæ were first noted and since there has been gastric trouble. This is a common observation in cases of myiasis. The cases are too rare to assume that the patient has been continually reinfected.

In reviewing the literature from an entomological standpoint we were surprised to note that comparatively nothing has been done in the study of the metamorphosis of the various insects. The bluebottle fly (*Calliphora erythrocephala*) is practically the only species which has been studied.

The following facts may be noted in regard to flies: Some lay no eggs, living larvæ issuing from the female (viviparous). It has also been noted that when certain of the dipteræ become parasitic no wings are developed. Nothing seems to be known as to whether the larvæ may reproduce, as has been noted in the embryonic types of some other low forms of animal life. The sexual organs in the larvæ, according to most entomologists, are not completely developed until after the adult fly stage is reached. The larva is entirely different from the adult fly and during the pupal stage which intervenes all the organs of the larva, except the reproductive, undergo degeneration and are regenerated. Such an arrangement suggests a very high specialization of these organs and it may be possible that when these larvæ become parasitic within the body reproduction may take place. It seems positive that the eggs can hatch and the larvæ grow to full size in the intestine of man. It has also been observed that larvæ may exist for very long periods of time within the body.

There seems to be four possible explanations for the continued presence of the larvæ within the body.

1. Persistence of the larval state for two to seven years. It must be assumed that very large numbers of eggs or very young larvæ were ingested, bearing in mind the number which have been passed. There is one case in the literature of twelve years standing.

2. The reproduction of the larvæ within the intestine. This would most easily account for the large numbers passed for a series of years.

3. The completion of the cycle by the hatching of the larvæ into the adult parasitic fly (wingless) and the laying of eggs by these flies in the intestines. We have observed no adult flies or remnants in the excrement.

4. The continued reinfection by the eating of eggs or larvæ or the deposition of eggs around the anus and their subsequent invasion of the intestine. There is the possibility that this patient was infected twice, once seven years ago and again two years ago. There is also the possibility in this case that the patient purposely ingests the larvæ. We think that this possibility has been excluded.

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[3] Finlaysen: Brit. Med. Journal, 1889, i, 1285.

Of the four possibilities we are inclined to believe that the first, with possibly the second, furnish the most logical explanation for this interesting case of myiasis.

Experiments will be made and reported on later as to the effect of the various digestive enzymes on the larvæ and their activity.

PREVENTION OF MALARIA *

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MOBILE, ALA.

Statistics show that malaria prevails in every state in the union except Wyoming; but because of climatic, meteoric and geologic conditions favorable to the growth of the anopheles mosquitoes, the southern states and the states adjacent to the Mississippi, Missouri and Ohio rivers show the greatest mortality from the disease.

Statistics compiled from the last census[1] show that there died, from malaria, in the United States in the year 1900, 14,909 persons, distributed by states as follows:

Alabama	1,055	Montana	5
Arizona	17	Nebraska	32
Arkansas	1,730	Nevada	10
California	119	New Hampshire	18
Colorado	21	New Jersey	110
Connecticut	110	New Mexico	89
Delaware	19	New York	308
Dist. of Columbia	63	North Carolina	527
Florida	366	North Dakota	4
Georgia	1,011	Ohio	156
Idaho	4	Oklahoma	134
Illinois	497	Oregon	23
Indiana	340	Pennsylvania	140
Iowa	84	Rhode Island	24
Kansas	261	South Carolina	749
Kentucky	344	Tennessee	987
Louisiana	1,030	Texas	1,331
Maine	16	Utah	6
Maryland	131	Vermont	9
Massachusetts	70	Virginia	409
Michigan	168	Washington	13
Minnesota	9	West Virginia	34
Mississippi	983	Wisconsin	5
Missouri	965	Wyoming	0

Of those who died from malaria in 1900, 9,320 were white and 5,589 colored. In the last census the colored population was approximately one-ninth of the whole, while more than one-third of the deaths from malaria were among the negroes. This high death rate from malaria among the negroes, who were formerly supposed to be more or less immune to the disease, may be accounted for by the fact that the negro population, in the states showing a high death rate from malaria, is large, and the negroes, representing the laboring and poorer classes, live in insanitary surroundings and, either from poverty or neglect, do not take treatment for the disease.

I have seen anopheles mosquitoes breeding in Central Park in New York; I have seen the plasmodium of malaria in blood obtained from the child of a millionaire residing on Fifth Avenue, and it is the same variety of mosquitoes, and the same type of protozöon, that I have seen in the swamps of the rural districts of the far south.

The problem of malaria, since it affects all sections of our country and all races and classes of our citizens, is a national one, and I shall discuss it from that point of view, though I admit that the section of country which I represent is vitally interested in this subject. In this connection I submit a few paragraphs from my address[2] as chairman of the section on medicine of the Southern Medical Association, delivered in Atlanta last November.

> Perhaps the most important health problem which affects the prosperity of the south is malaria. One has but to travel in the eastern, northern and western states to find that in those sections the south is regarded as a hotbed for malaria. No doubt thousands of settlers have sought homes in the west and elsewhere in preference to the south, because they feared to take their families to a section which they considered so unhealthful. Many travellers avoid the south, and capitalists have been deterred from making investments in our section because of the fear of malaria. I realize that such impressions are largely due to prejudice and to ignorance of the health conditions of the south, but it is also true that we have more malaria than we should have because, with our present knowledge of the disease, it should soon be stamped out of our towns and cities and made a rare disease in the country. . . .
>
> I have not statistics to show how much malaria has decreased in the south in the past two or three decades, except in the state of Maryland,[3] but its prevalence has been wonderfully lessened and it has become a much milder disease, so that to-day the severe types are rarely seen.
>
> The south is enjoying splendid prosperity in all lines, and she should erase from her fair name the blot of malaria, because it is a disease which can be prevented, and which interferes very materially with her industrial development.

Malaria destroys more lives every year than have all the epidemics of yellow fever in the past half-century, and there are several millions of our citizens in the United States to-day whose wage-earning capacity is limited because of the mild and chronic forms of the disease; yet malaria is preventable, and quinin is a specific for the disease.

In my opinion, malaria is a much more serious disease than yellow fever for the reason that one attack does not confer immunity, as in yellow fever, but predisposes to subsequent attacks; and because malaria is considered such a mild disease it is not properly treated and often assumes a chronic form which saps the vitality of the individual, thereby rendering him more susceptible to all other diseases, which are made more serious by the complication of malaria. The effects of yellow fever are soon over, while the victim of malaria may have the disease for years. I believe that the high death rate from nephritis in the southern states may be largely accounted for by chronic malaria.[4]

The existence of a few cases of yellow fever in a city causes a panic which destroys its commerce; there is an exodus of a large portion of its population, and cities, states and the nation will spend thousands of dollars in quarantines and in stamping out the disease; yet in the same city there may be thousands of cases of malaria —nothing is thought of that—and there has never been any organized effort to stamp out malaria because its ravages are "seen so oft" and we are so "familiar with the monster's face" that we endure it as if conditions could not be remedied.

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Twelfth Census of the United States, 1900, Vital Statistics, Vols. 1 and 2.

[2] Harris, Seale: Some Problems in Medicine which Affect the Prosperity of the South, Jour. South. Med. Assn., April, 1909.

[3] Thayer, W. S., and Hewetson, [illegible] vers of Baltimore, Johns Hopkins Press, 1 [illegible] Present Decline of Malaria in Maryland, [illegible] 1905, xlviii, 289.

[4] Marchiafava and Bignami: In Twentieth Century Practice of Medicine, New York, 1900, William Wood and Company.

Both malaria and yellow fever are transmitted by mosquitoes, the only difference being that they are carried by different varieties of mosquitoes which breed under different conditions: the anopheles breeding in puddles, undrained ditches, swamps, and in the scum on the surface of stagnant and slowly moving water along the banks of rivers and small streams, while the *Stegomyia calopus* has its habitat in the standing water of old cans, bottles, gutters of houses, badly drained sewers and other water-containers in and around human habitations. The anopheles must be infected by biting a malarial subject just as the stegomyia must get the infection from man. Since the above facts regarding the transmission of yellow fever and malaria are true, it would seem that the same measures should be employed in stamping out malaria as were used so effectively in stamping out yellow fever in Havana and in the Canal Zone. According to Colonel Gorgas,[5] the mosquito crusade in Havana not only freed that city from yellow fever for the first time in more than a century, but practically eradicated malaria at the same time. The number of deaths per year from malaria, in the city of Havana, before American occupation, averaged 350; after three years of sanitation by Colonel Gorgas and his assistants the deaths were reduced to 40 per annum.

That malaria may affect the welfare and destiny of nations is shown by the fact that students of history believe the decadence and downfall of ancient Greece and Rome was, to a great extent, due to the life-and-energy-sapping disease—malaria.[6] They believe that malaria is largely responsible for the transformation of the most learned, cultured and physically the strongest race of people in the history of the world into the ignorant and morally and physically degenerate people who to-day live among the ruins of Greece, which is now regarded as a "death hole for malaria."[7] The writings of nearly all the Roman authors contain many references to severe and destructive epidemics of malaria, and the efforts to drain the deadly Campagna date back before the time of the Cæsars. The prevalence of malaria in Italy no doubt had much to do with breaking the spirit of the ancient lordly Roman, "who was greater than a king," and thus helped to bring about the decline and downfall of the Roman empire.[8]

In the earliest years of this republic, and even in the first few decades of the last century, malaria was prevalent in the southern states to an extent which greatly interfered with their development. At that time quinin was such a rare and expensive drug that it could not be obtained, particularly in the rural districts, and nothing was known as to the nature and cause of the disease, so that thousands died from the malignant types of malaria.

The first capital of Alabama, St. Stephens, which, at one time, in 1810, was a thriving town of several thousand people, was literally wiped off the earth because malaria was so prevalent and of such severe type that its inhabitants either died or abandoned their homes. With our present knowledge of malaria, the inhabitants of old St. Stephens could live in perfect health, without one of them having a symptom of the disease which a century ago destroyed their prosperous little city.

Malaria was the principal obstacle to the completion of the Panama Canal by the French; and I may add that it has been the cause of the failure of many smaller enterprises in our own land.

Now let us consider the question of how malaria affects the prosperity and happiness of our nation to-day. I will first discuss the question of what malaria costs the United States, of how much money is spent each year because of the ravages of this now mild and easily preventable disease.

According to the census for 1900, there died from malaria in the United States 14,909 persons, and, estimating the value of a human life at $3,000 (the legal estimate is $5,000), malaria costs our nation from loss of life alone $54,727,000 each year. The death rate from malaria is very low; probably not one out of 500 people affected dies from the disease, and, adding to the death losses the loss of time and decreased earning capacity of the millions in the United States who are afflicted with the chronic and mild types of the disease, and the money paid out by the people in quinin and other medicines, to say nothing of the doctors' bills, on account of malaria, the cost of malaria to our country is enormous and astounding.

Dr. Albert Woldert, of Tyler, Texas, in a paper[9] read before the Texas State Medical Association, gives statistics from the hospitals of the United States Army posts in Texas in the year 1901, showing that one person in seven residing in those posts had malaria at some time during the year; and, according to his statistics from the railway hospitals, located in all sections of Texas, one railroad employé out of every four had malaria. Dr. Woldert states that about 3,000 people die annually from malaria in Texas, and he estimates that the financial loss from malaria to the people of the State of Texas during the year 1901 amounted to the enormous sum of $5,333,320. If it cost Texas that sum, the loss to the United States is at least $50,000,000 to $100,000,000 per annum. These figures give what malaria costs in cold cash, and do not take into account the sorrow and suffering of the millions who are afflicted with this preventable disease.

Is it worth while to combat, and to hope to exterminate, a disease so widely prevalent in the United States?

In answer to this, I would point to what has been accomplished by the Italians in the last five years. Though Italy has suffered more from malaria than any other nation, it should be said to the credit of her physicians that they have studied the disease most carefully and have contributed more than those of any other nation to our present scientific and practical knowledge of malaria. The Italian Society for the Study of Malaria has made most valuable contributions to the science and literature of the disease. The Italians have also made practical use of their knowledge of malaria by aiding the physicians in their campaign against the disease, and even though in financial difficulties Italy has spent millions of dollars to prevent the disease. She not only enacted and enforced laws to stamp out malaria, but went into the manufacture of quinin, selling it to her citizens at the cost of production and giving it free to her poor. That this expenditure of money and the campaign against malaria as made by the Italian government and its physicians was wise is shown by the result. The mortality rate from malaria in Italy for the past five years has been reduced two-thirds (Thayer). Think of the saving of lives and suffering to the people of our country if our mortality and morbidity rates from malaria can be reduced even two-thirds!

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[5] Gorgas, W. C.: Malaria in the Tropics, THE JOURNAL A. M. A., 1906, xlvi, 1416.

[6] Jones, Ross and Ellett: Malaria: A Neglected Factor in the History of Greece and Rome, 1907, Cambridge.

[7] Ross, R.: Malaria in Greece, Jour. Trop. Med., 1906, ix, 341, 351.

[8] Jones, W. H. S.: Malaria and History. Ann. Trop. Med. and Parasit., 1907, i, 529-546.

[9] Woldert, A.: Malarial Fever, Its Expense to the *People of Texas*, Transactions of the Medical Association of Texas, 1904, pp. 37-61.

The results in the mosquito crusades in Havana and in the Canal Zone should encourage us. As I have said, malaria was practically exterminated in Havana, and the following extract from Gorgas' last report[10] shows how malaria is being conquered in the Canal Zone under the most favorable circumstances:

> In 1906 we had from malaria 233 deaths; in 1907, 154 deaths; and in 1908, 73 deaths. That is, with a force more than one-third larger in 1908 we had from malaria less than one-third the deaths that we had in 1906. I consider malaria the best measure of the sanitary work done. In 1906, out of every 1,000 employés we admitted to our hospital, from malaria, 821; in 1907, 424; and in 1902, 282. That is, we now have only about one-third the amount of malaria among our employés as we had three years ago.

President Taft, in a recent address, said: "The sanitation of the Canal Zone has made possible the completion of the Panama Canal, the greatest enterprise in the history of the world."

Colonel Gorgas, in an address before the Academy of Medicine in New York, said: "With the removal of yellow fever, malaria and other tropical diseases, the tropics will become the centers of civilization of the world." If it is possible to eradicate those diseases from the tropics—and medical science has practically eliminated yellow fever from the diseases to be considered—how much simpler and easier will the problem be in the United States! It seems almost as feasible to stamp out malaria as yellow fever, and I believe that, with our present knowledge of the disease, it will soon become one of our rare diseases and that it will not be many years before our public health authorities will quarantine against malaria as we do now against yellow fever.

In discussing methods for the prevention of malaria, it may be well first to state the precautions to be used with an infected individual, which are largely the same as with a case of yellow fever, i. e., he should be (a) isolated (placed under a mosquito-net or in a screened room) to prevent his infecting anopheles mosquitoes; (b) the mosquitoes in the house should be destroyed by burning sulphur or pyrethrum; (c) the persons in the house or others exposed to the bites of infected mosquitoes should have preventive doses of quinin (3 grains, morning and night); (d) after the patient has been relieved of all symptoms he should take six grains of quinin a day for a period of at least three months, to be certain that he can not infect the anopheles mosquitoes in his community (Thayer).

Malaria should be classed as a reportable disease. Physicians should be required to report to the city and county health officers the name and location of each patient suffering from malaria, just as is now done with yellow fever and typhoid; and, as in those diseases, the source of infection should be searched for and removed if possible.

To protect the inhabitants of a community, whether in the city or in the country, efforts should be made to destroy all anopheles mosquitoes. Every accumulation of stagnant water, whether large or small, which can become a breeding-place for mosquitoes, should be drained or filled in, or oiled, when those measures are not practicable. The débris, green moss, and decaying vegetable matter on the surface of the water along the banks of slowly running streams should be removed because that is a favorite place for the breeding of anopheles mosquitoes.

When it is not possible to destroy all mosquitoes in any community, every person should sleep in screened rooms, or under mosquito-nets, from early spring until the mosquitoes are destroyed by the frosts of winter.

In badly infected communities (malarial localities) every person should take prophylactic doses of quinin during the summer and autumn months.

A physician in performing his daily duties can do great good by treating each malarial patient as if he had any other infectious or contagious disease, and by instructing his patrons as to the mosquito origin of malaria. He should inform his patients that malaria is infectious and of the methods to be employed in preventing its spread.

There should also be carried on a systematic campaign of education among all classes of people, by means of lectures and by widely distributed tracts, written in popular style, regarding the mosquito transmission of malaria and of how the disease may be prevented, because without the cooperation of the public a crusade against any disease can accomplish but little.

There should be organized a national association for the study and prevention of malaria, just as was done in Italy, with auxiliary state and county societies in the sections most infected.

The medical societies and boards of health in each town, city, county and state affected should take up the work of stamping out malaria. The American Medical Association, and particularly the Section on Preventive Medicine and Public Health, should aid in this great work, at least, by lending its influence toward a practical solution of this problem.

The United States Public Health and Marine-Hospital Service should also be called on to assist in stamping out a disease which causes so many deaths and so much suffering. Malaria is of more importance to the welfare of our country than yellow fever, and the scope of the United States Public Health and Marine-Hospital Service should be enlarged and its force increased so that a trained body of sanitarians can be employed in the fight against malaria just as has been done in epidemics of yellow fever. Malaria may be at times an interstate disease and already the health officer of Mobile is protesting against the introduction into that city of severe cases of malaria from the tropics.

Congress should be urged to create a special commission for the study and prevention of malaria, and to provide an appropriation sufficient to carry on the work. It seems to me that, at this time, a separate commission could accomplish more than by placing the work in the hands of any of the departments of the government now existing, because such a commission could be composed of physicians of wide influence in the localities most affected, men who would be especially interested in getting results and men who could enlist the active cooperation of the various county and state boards of health. The physicians composing such a commission should have hospital facilities for the study of the disease, because there are many problems connected with malaria which have not been worked out.

Congress has appropriated money for the study and prevention of yellow fever. Malaria is a similar disease, and, in my opinion, is of greater importance, certainly, at this time, to the welfare of the entire nation, than yellow fever ever will be again. Congress appropriated $50,000 for the study and prevention of the boll weevil and also considerable money for destroying parasites in wheat and corn; it has given large sums for stamping out diseases in cattle; why should it not be called on to aid in stamping out a distinctly preventable disease, which destroys thousands of human lives and decreases the earning capacity of many hundreds of thousands of American citizens?

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[10] Gorgas, W. C.: Annual Report of the Department of Sanitation of the Isthmian Canal Commission for the Year 1908. Government Printing Office, Washington.

The problem of the prevention of malaria means much to the southern states and, therefore, much to the nation. If our section can be freed from malaria, the poor whites and negroes will be stronger physically and, therefore, better laborers; our naturally fertile lands will become more productive; the cotton mills will come to our cotton fields because of our cheap and efficient labor; our iron and other mineral resources will be developed to an extent hitherto not dreamed of, and our Gulf and Atlantic cities will become shipping and manufacturing centers of great importance. If we can [illegible] that malaria, like yellow fever, can be forever stamped out of the south, our prosperity will amaze the world.

ABSTRACT OF DISCUSSION

Dr. Marshall Langton Price, Baltimore: There is one subject on which I think I ought to dwell, especially because of its importance; that is, the actual value of the statistics of malarial fever. I doubt very much, under present conditions, that 80 per cent. of the deaths which are actually recorded from malaria in the United States are due to any infection from the malarial parasite: I believe this, from my experience in Maryland, in which state there are probably recorded annually from 8 to 10 deaths from malaria. This makes an impressive showing in figures; but when the original certificates are examined one finds about as follows: returned as the primary cause of deaths, malaria, 2 weeks; intestinal perforation and peritonitis, 10 days. Analyze the death statistics of any state and similar conditions will be found. Outside of the extreme southern states there are not more than 100 deaths from malaria during the year, in the states north of Tennessee. Of over 400 deaths reported in Illinois, I doubt very much if 20 were due to malaria. During the Spanish-American War some observer made a tour of the military camps. He found from 50 to 100 men in each camp laid up with malaria and being dosed with quinin. He was told: "They have malaria." He reached some regimental surgeon, who, I am sorry to say, for the sake of Americans, had a very strong German accent. The observer asked: "How many cases of malaria have you?" He said: "Not one, sir!" His patients were not being dosed with quinin; they were being treated on rational grounds for typhoid fever. In Maryland one of the best studies of typhoid fever was that made by Thayer and Hewittson in 1893. At that time malaria was endemic around the suburban portions of Baltimore. Those cases were not founded on conjecture, but the actual parasite was found in the blood. Since then malaria has almost disappeared from Maryland and in every 1,500 to 2,000 cases of supposed malaria the malarial parasite is found in about 5, as determined by the examination of fresh blood or smears. I have no doubt that in the South, as Dr. Harris states, malaria is a very common disease; but I do not think we ought to accept the usual diagnosis by the physician as an actual basis for malarial figures. I think we ought to reject all such cases and base statistics entirely on those cases in which the parasite is demonstrated in the blood either by staining or by an examination of the fresh specimens.

Dr. Henry B. Hemenway, Evanston, Ill.: Illinois is exceedingly defective in vital statistics, the state administration having paid very little attention thereto. It is estimated by the Illinois State Board of Health that 80 per cent. of the deaths that occur in Illinois are reported. Of course, that would increase the 400 deaths from malaria quite materially —put it up to 500; but it has been my observation, as Dr. Price has said, that a large majority of the diagnoses that we get as malarial fever would, with the blood test, prove to be typhoid. So far as I know, in Cook county there have not been more than five cases that have shown the peculiar organism of malaria, within perhaps a couple of years. Some were found along the Desplaines River some time ago. Most of the cases that are recorded as malaria—as fatal cases of malaria, particularly—are really typhoid; and that is one reason why the study of malaria can hardly be separated from the study of typhoid, and the study and prevention of yellow fever. I am glad that attention has been called to the necessity of including among the reportable diseases malaria as much as smallpox or scarlet fever.

Dr. W. Forrest Dutton, Walker's Mills, Pa.: Dr. Price brought up a point that I would like to hear explained, not at any length, but satisfactorily enough for those present, namely: mixed infection. I would ask Dr. Harris to give us, if he can, the frequency of typhomalarial infection, the percentage of cases in which it occurs. I do not think there is any reason why we should be at loss to differentiate typhoid from malaria except when there is a mixed infection. I think that by means of microscopic examination of the blood smears we ought to be able to make our diagnosis very readily.

Dr. Juan Guiteras, Havana, Cuba: I do not think that in the tropics a mistake in diagnosis is frequently made between typhoid and malaria. I understand the mistake may be made with filaria, hookworm and tuberculosis, but not with typhoid fever. The cases reported as malaria in the tropics—in Cuba at least—would seldom be found to be cases of typhoid fever. Of course, the mistake is possible, but it is exceptional. The unfortunate term of typhomalaria that was invented some time ago was in vogue at that time, because we had no definite means of diagnosing typhoid fever. Malaria in Cuba has fallen from the third and fourth place on the mortuary records to the tenth place. Malaria was originally placed by us on the list of reportable diseases because of the yellow fever campaign. Another important factor in bringing about this reduction of the malarial fevers in Cuba is the isolation of the sick at the port of entry. We are detaining a very large proportion of the patients with malaria who formerly went into the country and, of course, became propagators of the disease. The majority of patients with malarial infection coming from Central America, Mexico, the Mississippi delta, etc., are found with fever on the inspection made by the quarantine officer and are sent to Las Animas Hospital; once there, they are not discharged until they are cured.

Dr. J. N. Hurty, Indianapolis: I believe thoroughly in education as the best, perhaps the only way to get these subjects before the people. Sometimes, however, I become discouraged. I went before the county board of health of a certain county in Indiana where malaria was reported as existing to a considerable degree, and from which county several deaths had been reported, and presented the reason of malaria. This county board of health was composed of the county board of commissioners. So I presented the whole matter as carried by mosquitoes and I thought I had made a very excellent impression on the board—that it would take action, print circulars, and perhaps go to draining, and encouraging drainage in the county there and get rid of stagnant water; and I was very confident that I had educated these "practical business men," as they called themselves. One of them turned around and with his hand combed a couple of handfuls of manure out of his beard, saying: "Young fellow, you don't believe all of that stuff, do you?" So sometimes education does not educate, and especially with the man who considers himself highly practical, and—worse yet—with the man who has made a semifinancial success. I think that those men are so consumed with conceit that one cannot get at them. We had a legislator who had cunning enough to amass a hundred thousand dollars. He has decided to be a practical man in his neighborhood; and so practical and so eminent was he in the state that the governor appointed him on a very important examination committee; and when he heard one of our lecturers say that consumption was rarely, if ever, hereditary, he said he did not care if "a thousand doctors and thousand doctor books said that it was not hereditary" he knew that it was. Now, you see, we have a certain class of people (I suppose they exist in other states), who cannot be educated.

Dr. Seneca Egbert, Philadelphia: I remember distinctly that somewhat more than fifteen years ago the secretary of one of the southern states, speaking of the importance of artesian water as replacing that from shallow wells, declared in one of the bulletins that because of the improvement in the well-water supply in certain parts of his state the reduction in malaria had been over 50 per cent. We all know now that the malaria of which he wrote was not malaria, but must have been something else. My experience was that a great many of the people in a locality where I was working used water from very shallow wells; and I remember in one case water that was undoubtedly contaminated, in this village, was taken from wells located a very short distance from a stream, and everybody believed that the wells filled from the stream. On the higher ground above the wells there were twenty-three privy vaults and pig-sties draining directly toward these wells en route to the stream. These people were persistently ill every season, with so-called typhomalarial fever. I doubt very much if any one in the neighborhood had a true case of typhoid fever, but I am convinced that they were suffering from filth infection, and that their general health was depressed by that absorption of human and pig filth. So it seems to me that possibly we may explain much of the reported typhoid fever or malaria if we dubbed it simply filth infection, and occasionally, paratyphoid.

Lieut.-Col. Jefferson R. Kean, U. S. Army: With reference to the statement of Dr. Guiteras that there were about 40 deaths from malaria in the City of Havana during the past year, I think that the showing is even better than that, my recollection being that it was only 8. Although the difference between 40 and a lower figure is not great for a city of 300,000 inhabitants in the tropics, I wish to call attention to it as an evidence of the thoroughness of the work being done in Cuba. It means the practical extermination of the pathogenic varieties of mosquitoes in and about Havana. The last year that I was in charge of sanitary affairs in Cuba we had to send away from Havana to get anopheles larvæ to show to our inspectors as a part of their course of instruction. I regard Havana at present as not capable of infection with yellow fever and if any one visits the city, unless he stays much longer than most American visitors, he will probably not see a single stegomyia mosquito. In so excellent a paper it seems ungracious to criticize small points, but there is one which I would like to see corrected. I do not want to detract at all from the excellent public work for the extinction of malaria that is being done by the Italians and which we would do well to imitate; and this notwithstanding the fact (as Dr. Price will probably bear me out) that many of the local epidemics which appear in the northern states are initiated by Italian laborers who bring in the infection. While giving the Italians all due credit for their work I do not like to hear them credited with that of men of other nationalities. Laveran, who discovered the malarial organism, was a French army surgeon, and it was a British army surgeon, Ronald Ross, who first demonstrated the agency of the anopheles mosquito in conveying malaria.

Dr. Liston H. Montgomery, Chicago: I do not think very much of the term typhomalarial fever. Has the Italian government succeeded in reducing the number of deaths by two-thirds?

Dr. Seale Harris, Mobile, Ala.: Yes.

Dr. Montgomery: It shows that in Italy governmental control is paramount; furthermore, Cuba has succeeded in stamping out yellow fever, and practically malaria also. Cuba has a national department of health; and those two examples would, it seems to me, go to show that our government should have a national department of health, with its physician in the cabinet, as has been done in Cuba. Not only this, but such government commission should have supervision over other contagious diseases, such as tuberculosis and bubonic plague, the latter of which is liable to come from South America, particularly Venezuela, and get into New Orleans almost any day.

Dr. J. H. White, New Orleans: The national government is standing guard at this present moment.

Dr. Marshall Langton Price, Baltimore: Those of us who have been in New Orleans are familiar with the magnitude of Dr. White's work in the last yellow fever epidemic. I think the problems that he tackled were among the most difficult undertaken in this country; and the brilliant results all of you know.

Dr. J. H. White, New Orleans, La.: When I undertook the work of sanitation against yellow fever in 1905 we were confronted with 196 square miles of territory in the City of New Orleans, whereof 44 square miles are built up rather closely; 660 cases of yellow fever; control more or less lost; and nothing but the indomitable pluck of that magnificent people could have enabled success. It was a question of extermination of all mosquitoes in the City of New Orleans or failure. We put 3,000,000 pounds of salt in the gutters in order to make sure that there were no mosquitoes breeding there. Six weeks afterward the water in the bayous through which the gutters reach the lake showed 5 per cent. saline. We cleaned the whole town from end to end; we oiled 68,000 cisterns, and every rain barrel that we could get our hands on; we left nothing to breed on in that 44 square miles of territory; and in the latter end of September, 1905, a new-born baby could have been placed in the streets of New Orleans to sleep. The extinction of yellow fever was not the only result. A result as truly gratifying was that estivoautumnal malaria which had been common in New Orleans, was distinctly cut down. Having a hospital under my supervision, it is only in the past six months that we have begun again to get estivoautumnal malaria by the river front, by reimportation both of the mosquito and infection from the tropics, proof of this being as follows: At certain points on the river we have lying in close contact steamers from Tampico, Coatzacoalcos, and London and other British ports. These Englishmen occasionally develop estivoautumnalis when they have not been in the tropics for a year or two, and after lying for two weeks in the port alongside the wharf close to the Tampico or Coatzacoalcos ship, and to the collection of water caused by the railroads digging out dirt to fill up their embankments: thus proving the reinfecting of our mosquitoes which have come back only in the last two or three years to that point.

Now, as to governmental control, New Orleans has done her duty very well indeed, in the matter of malarial fever. As I recollect it, the annual death rate in New Orleans back as far as the '70's from fever supposed to be malarial, and probably malarial (because typhoid infection was very uncommon), was close to 335 as the average; and to-day, I think it will not go to 25; and that is municipal work: it has nothing to do with the nation. As a national representative, I say that I think this a pretty good showing in New Orleans, which, if you paralleled with Havana, Dr. Guiteras and Dr. Kean will admit, is a far harder proposition; New Orleans is extended on a mud-flat, below the level of the Mississippi half the year round, the water so sluggish in its flow that it has to be pumped out mechanically, and there is every possible inducement to the mosquito to make its habitat in and around New Orleans. Gradually, slowly but surely, they are eliminating the mosquito. A little more persistence, a little more care, possibly another scare, will be needed to bring them up to it; but I feel sure—as sure as a man can of anything that he has not seen done before him—that New Orleans will, in the next few years, be immune to yellow fever.

Dr. Seale Harris: What is the difference in death rate?

Dr. J. H. White: As I remember it, the general, as compared with the previous death rate, has been reduced about 2: among the white population, say from 19 to 17; among the negro population, a slight reduction, not so much.

Dr. G. Farrar Patton, New Orleans: Dr. White, with characteristic modesty, has not mentioned what was really the greatest victory that he won there; that is, overcoming the prejudice of the people. I think it is safe to say that at the outset ninety-nine out of every hundred people in New Orleans believed that the mosquito doctrine was all nonsense, and before the campaign was half over the people of the city, down to the street arabs, were convinced of its absolute truth. That was accomplished mainly by a "hammer and tongs" campaign of education, attended with positive proof in the way of results. As Dr. White jokingly says, he preached in every church in New Orleans, and it is true: he preached a gospel that saved the lives of the people more effectively, perhaps, than the preachers who ordinarily occupied those pulpits save the souls of their people and I consider that this victory—the moral and intellectual victory—transcended in magnitude the wonderful success achieved in banishing the disease proper before the coming of frost.

DR. R. A. NEALE, Chicago: About thirty years ago I was physician to the poor of Washington, D. C.; I had assigned to my territory a section of the city that was nearly surrounded by water, and it was called "Foggy Bottom;" the three thousand odd people living there for ten or twelve years had been suffering intensely from ague; the little huts that they built were nearly all covered with shrubbery and vines. Foggy Bottom was a piece of land that was marshy; in a number of years it became filled in and houses were built there. My predecessor showed me an average every summer of over 600 cases of typical malaria in that Foggy Bottom. I did not know anything about Italy's great progress in preventing malaria, but I was fearfully annoyed every night by the numerous mosquitoes flying about my head, and I decided that I must get rid of them. I made all of those people get rid of all vines and shrubbery, cut down every tree, and put screens in all the windows and burn sulphur in their rooms. I had them makes hundreds of bonfires at night, hundreds of them; because the breezes would come at night and blow the mosquitoes away down the river; in the morning it would come the other way and blow them back again. The next year of my term, instead of having 600 cases of malaria I had only 50; the third year there were only 25, and nearly all of the patients had recently come to reside in Foggy Bottom.

DR. SEALE HARRIS, Mobile, Ala.: I expected my statistics to be questioned, but those obtained from the United States Census Reports are the only ones available. I am willing to admit that many deaths reported as malaria are due to typhoid fever, tuberculosis, sepsis, hookworm and other diseases, but it is a remarkable fact that along the Mississippi Valley, along the valleys adjacent to the Missouri and Ohio rivers, and in the South, where conditions are favorable to the development of anopheles mosquitoes, there are so many "ignorant" physicians who report these cases of malaria. The United States Army surgeons, I believe, represent as good a class of physicians as we have, and the statistics from the United States Army posts, which are located in all sections of Texas, show that one person out of every seven residing in those posts had malaria in 1901. Not only that, other statistics compiled by Dr. Waldren show that in the railroad hospitals in Texas, which are located in cities in different parts of the state, where it is certainly probable that there are competent physicians in charge, one patient out of every four has malaria. I admit that my statistics may not be correct, but from my own observations in the South I believe that there a large proportion of the population has malaria at some time during the year. The death rate from malaria is low, and is growing less, and it is a very mild disease, yet it does affect the vitality of the individual; it makes him more susceptible to other diseases, and I believe it materially affects the general mortality rate. I am sure that malaria is growing less prevalent in the cities where there is proper sewerage. I believe that will account for much of the decrease of malaria in Maryland. In Havana and the Canal Zone where the sanitation was worked out largely against mosquitoes the general mortality rate was reduced about 50 per cent., and as Dr. White has pointed out, the general death rate has been reduced in New Orleans since the crusade against mosquitoes.

Regarding the amount of typhomalaria in the South, I do not know of any cases in which typhoid and malaria have been found at the same time in the same individual, but it is certainly true that in the convalescence of typhoid fever malaria does occur. In the tropics during the Spanish-American War, when a large number of United States soldiers had yellow fever, they suffered a great deal more from the malaria that followed. I realize the difficulties of educating the public, but the lessened prevalence of malaria in the South is due to the fact that the educated, "well-to-do" people have their homes screened with the idea of preventing malaria by keeping out mosquitoes, and with such people malaria is less prevalent than formerly. Another reason why malaria is less prevalent in the South is the widespread use of quinin. Dr. H. F. Harris, of Atlanta, studied a large number of cases of continued fever and the greater majority of them responded to the Widal test for typhoid.

I desire to thank Dr. White for calling attention to my mistake as to Laveran being an Italian, but the Italians have done a great deal in studying malaria, and the literature published by the Italian Society for the Study of Malaria is greater in volume than that contributed by any other country.

My object in bringing this paper before this Section is this: While malaria is not perhaps so severe an infection as yellow fever, typhoid fever, tuberculosis and many other diseases, it is one of the more prevalent diseases in the United States. There is a great opportunity for sanitarians in the South to make records by decreasing the death rate from malaria, and in doing that it would be one of the greatest things for our country, particularly for the South, because we have the reputation of being unhealthful. Eliminate malaria and you will certainly decrease the general death rate.

SOME MINOR GYNECOLOGIC MATTERS OFTEN OVERLOOKED*

I. S. STONE, M.D.
WASHINGTON, D. C.

In routine practice we may fail to appreciate certain rare or obscure diseases which are very annoying to our patients, although not dangerous to life. We find a number of cervical erosions, classified as infectious, which are due to other causes. There are numerous infections of glands of the genital tract which are not understood, and which are not successfully treated because the seat of the infection is not exposed and thoroughly sterilized. Many patients have numerous deep vulvar glands, especially about the vestibule, which may become veritable nests for gonococci or other microbes and will perpetuate an infectious discharge indefinitely unless opened widely and sterilized by iodin or some equally good application. Skene's glands in the urethra are known to harbor infectious organisms and to cause a persistent urethritis. This disease requires surgical treatment if a cure is obtained. The glands must be opened up, thoroughly exposed and treated. My purpose at present is to direct attention to certain nerve changes about the genital tract.

NEURITIS AND HYPERESTHESIA OF THE VULVA AND VAGINA

This is a frequent and often unsuspected cause of annoying symptoms. One of the commonest mistakes made by physicians who treat gynecologic patients is to call every sensitive surface an inflammation. Careful discrimination will enable one to detect certain nerve alterations and to see the difference between them and vaginitis or vulvitis, due to infection or persistent irritation of any kind.

These nerve changes are often seen in a consulting practice. The patient has had fairly good, and perhaps rather active, treatment for infectious disease and has not obtained relief. In fact, nearly every patient coming under observation has been subjected to much local treatment, all of which has probably done harm unless such treatment finally results in a diagnosis.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

SYMPTOMS

The patient is usually a neurasthenic or a neurotic. She is usually suffering from associated disease, which is often due to impaired function rather than to organic mischief. She has a leucorrhea due to more or less endocervicitis, and believes that the discharge causes the painful condition of the vagina. The parts are extremely tender, are often red, and occasionally swollen. Micturition is generally painful in those cases with red and swollen mucosa. The disease is not confined to any special class. We encounter it in virgins relatively as often as in married women. The patient is often told by some physician that she has "ulceration" of some portion of the vaginal mucosa. A slight erosion of the cervix becomes the *point de résistance* of much medical treatment, and in a recent case the patient told me that she had "three different ulcers of the cervix cured by treatment, only to have them return as before."

It is a common practice of many physicians to rely strictly on local treatment for a cure of this disease, because they fail to see the real cause back of the local manifestation. Obviously, all applications of tampons, iodin, ichthyol, boric acid, and glycerin fail unless they benefit by entertaining the patient while time and improved general health bring about a cure. It is in this class that we see the evil result of suggestion. Many of these patients are acutely sensitive to wrong impressions and they are easily and often inadvertently led to think that a slight displacement of the uterus or an enlarged ovary, or possibly some slight intestinal irritation, if treated perhaps surgically, can be cured. It is well known that the uterus has often been removed because the supposed irritating discharge could not be otherwise cured. Of course, in certain cases the neuritis may not easily be relieved or the symptoms even palliated. I have seen several cases associated with urethral caruncle, and I am inclined to believe the pain of a caruncle is always due to an associated neuritis. We have all seen caruncles removed without relief to the patient, and unless they are associated with cystitis the failure is generally due to nerve changes.

DIAGNOSIS

If methods of examination were more exact we would find fewer cases of acute infectious disease of the vulva and vagina and relatively numerous cases of neuritis or hyperesthesia. Naturally, we resort to well-known methods of treatment rather than make the effort to establish a correct diagnosis based on careful investigation. Such empirical practice will perhaps long retain a hold on our favorable consideration, although we always have at hand perfectly satisfactory, even if slower, methods of reaching a diagnosis and consequently a proper indication of treatment. We fail to see any improvement in the teaching or treatment of the minor gynecologic cases since the days of Sims, Emmet and Thomas, and hence surgery has become far more prominent in this specialty than before, and I am confident more than is desirable or necessary.

It is impossible for every one at first to distinguish between cases of hyperesthesia and those of neuritis, but it is comparatively easy for those accustomed to make such distinctions in other portions of the body. Without resort to electrical or other scientific measures, the usual observation and care which is exercised by any physician who is on the alert for these cases will enable him to detect the condition under discussion. In any event, a diagnosis between hyperesthesia and neuritis is not absolutely necessary. The precise portion of the vulva or vagina which may be the seat of the disease is altogether uncertain. I find that the sensitive area in by far the greater number of cases is about the vestibule and introitus. Recently a case of neuritis was seen with dark discoloration of labia around the glands of Bartholin, due to repeated cauterizations, probably with silver nitrate. Occasionally I find a sensitive spot or area on or near the cervix, as in a case recently seen in a pregnant woman. This latter was, however, associated with marked neurotic symptoms which closely resembled inflammatory mischief.

ILLUSTRATIVE CASES

CASE 1.—Patient referred by Dr. C.

Miss X., aged 35, had been treated for infectious endometritis by curettement and intrauterine cauterization, without relief. She had swelling and edema of the vulva with each menstruation, causing great distress. When first seen there was redness; slight swelling and some erosion of the vulva with painful micturition and occasional itching. The urine was nearly normal and contained no sugar. She had been examined for eczema by a competent dermatologist who recognized the unusual features of the case. This patient had associated neuritis and endometritis. I made the diagnosis and treatment was carried on by her family physician, who reports a gradual improvement and nearly perfect restoration to health.

CASE 2.—Patient referred by Dr. W.

Miss Z., a thin, nervous virgin, aged 27, with hymen intact, had been told that she had "ulcers" on the vulva. She had a very slight leucorrhea, but I failed to discover the ulcers or even redness about the vulva or vagina. The uterus was small and retroverted, otherwise all the organs were normal. Her complaint of painful and sensitive vulva and vagina led me to go slowly in reaching a diagnosis. Examination of the discharge was negative, there being no possible infection of the vagina. She passed out of my hands and an abdominal operation was performed for a slight displacement of the small uterus, with the result that she believes herself benefited, although the time has been too short for definite results. Of course, the lesions found at the operation did not explain the symptoms and the girl will finally recover when her nervous disease disappears either by good fortune or by proper treatment.

TREATMENT

The suggestions already made indicate the line of treatment to be adopted. The diagnosis made, the treatment becomes a matter of simple attention to the general health of the patient. In irritable and sensitive vaginæ we should avoid all irritating applications and should use either drying powders or emollients. It should be remembered that any fluid may cause burning and smarting if a neuritis be present. The indication is to protect the tender surfaces so far as lies in our power.

Stoneleigh Court.

ABSTRACT OF DISCUSSION

DR. ROBERT MORRIS, New York City: The colon bacillus is not infrequently an infecting agent in the vagina and uterus. At present I am having some investigations made in a number of cases in which the discharge from the endometrium is secretional in character. This discharge forms a culture medium for the colon bacillus, and the colon bacillus may extend its field from the vagina to even the peritoneum. Another point which I wish to make is in connection with a minor gynecological disturbance that is commonly overlooked, and to which I have given a good deal of attention during the past two or three years—the effect, the remote effect, of eyestrain, particularly in school girls. Recently I had two cases; one patient had an acute anteflexion; one had retrodisplacement. In both cases there was obstinate obstruction of the bowel to such a degree that both patients were in great distress, and there was a question whether or not they would be obliged to give up their school work. In both cases I was able to eliminate all factors except the eyestrain. The patients were sent to an ophthalmologist and both were well in thirty days. I am having a great deal to say on the subject of eyestrain, but not so much as the men who are throwing the subject into disrepute. A great many ophthalmologists have seen the horizon of this subject enlarged so enormously that they are speaking from imagination rather than facts. Let us speak from facts. In a certain proportion of minor gynecologic cases, particularly in young people, eyestrain is the cause and can be discovered by the proper ophthalmologist—who is not easily found. The ophthalmologist usually makes an examination with reference to an ordinary refraction and his report relates to the sight. That has nothing to do with the case. Remote disturbances are to be sought by men competent to do this. I said to an ophthalmologist recently, who had examined the eyes of a patient in which eyestrain was, in my opinion, the cause of the disturbance: "Now, have you examined with reference to muscle imbalance?" "No," he said, "I have just examined with reference to sight; I will take this matter up." There was a case that had slipped past an absolutely competent man who had not taken up this subject with reference to gynecologic features. It is a matter which has been overlooked by most of us, but let us send cases in which eyestrain is possibly the cause to the proper ophthalmologists, and let him give us either negative or positive testimony.

Dr. Mary E. Dunning, Newburg, N. Y.: I believe that nerve strain has much to do with many local conditions seen in our patients. A case worthy of note is that of a woman of 38, whose menstrual function had always been accompanied with terrific headaches and vomiting. Examination showed nothing abnormal in the pelvis excepting extreme tenderness of the adnexa, and there was a spur which blocked completely the left nares. Two pelvic hydroelectric treatments were given and the spur removed. She has had no nerve disturbances, menstruation has been normal and she has been perfectly well since.

Dr. Angeline Martine, Utica, N. Y.: Dr. Morris' mention of the colon bacillus being a cause of irritation in certain cases, reminds me of a case in a young unmarried woman of undoubted good reputation who had an irritation resembling grossly a gonorrheal infection. I had the discharge carefully examined under the microscope, and found that it was due to an infection by the *Proteus vulgaris*. I have had a series of seven or eight such cases which I have reported. The infection is very intense. One of the cases seems to have been contracted by the use of the public toilet. The source of the other cases could not be traced. The infection so closely resembles gonorrhea that much care should be observed in the examination.

Advantages and Disadvantages of Pasteurization.—One of the chief objections to pasteurization is that it promotes carelessness and discourages the efforts to produce clean milk. It is believed that the general adoption of pasteurization will set back improvements at the source of supply and encourage dirty habits. It will cause the farmers and those who handle the milk to believe that it is unnecessary to be quite so particular, as the dirt that gets into the milk is going to be cooked and made harmless. It is not proposed that pasteurization shall take the place of inspection and improvements in dairy methods. To insure the public a pure and safe milk supply should be regarded as one of the most important duties of the health officer. Whether pasteurization is adopted by a city for its general milk supply or not, no milk should be accepted that does not comply with certain reasonable chemical and bacteriological standards. This would aid the inspectors in enforcing good dairy methods. Pasteurization then must not be used as an excuse to bolster up milk unfit for home consumption. To insure this end, the health officer should have authority to condemn and destroy bad milk, whether or not pasteurization is practised.—M. J. Rosenau, in *Annals of Medical Practice.*

THE SANITARY REGENERATION OF SAN FRANCISCO

N. K. FOSTER, M.D.
SACRAMENTO, CAL.

Early in the morning of April 18, 1906, San Francisco was awakened by a severe shock of earthquake which, breaking the electric wires, set fires in many parts of the city. The same shock which set the fires destroyed the means of defense by breaking the water-mains, and the city was unprotected against the fury of the flames which raged uncontrolled for three days and nights. Few, if any, of the great fires of the world have equaled it in extent of property damage. Picture a city, rich, substantial, with a beauty and grandeur peculiar to itself, covering hills and valleys, with vast mercantile and manufacturing industries, changed in three days to a pile of broken brick and twisted girders, 2,560 acres of ruins, 28,188 houses destroyed, 275,000 people homeless, $350,000,000 property values wiped out of existence!

It was a time that tried men's souls; and never was American pluck put more fully to the test and never its superior quality more fully proved. There was hardly a person in the city who was not stricken to a greater or less degree; and thousands on thousands had not only the savings of a lifetime wiped out, but all immediate chance to work for a living destroyed. There was hardly food enough left in the city for a full meal for the inhabitants, most of whom were sleeping in the parks and vacant lots. The supply of water was very limited, and no fires were allowed in houses, so all cooking had to be done in the open air. The sewers were broken and clogged, the means of collecting garbage destroyed, and conditions were favorable for the spread of zymotic disease.

The conditions confronting the health authorities were serious but were fully appreciated, and long before the fire was out a complete organization was installed, composed of the medical service of the United States Army, the State Board of Health, and the City Health Department. The city was divided into districts, and over each was placed a local physician who was skilled as a leader as well as in his chosen work. He selected his own assistants from among the medical men of the city. Here let me give a word of tribute to the doctors of San Francisco. No class or profession was hurt so badly. Libraries, instruments, accounts and practice were all swept away and many of those fortunate enough to own their homes lost them also. Without price or any consideration they gave their time and skill not only to aid the sick and injured, but to save the city from a fate which seemed almost inevitable. The work they did was not spectacular, but its value to the city was none the less great and can never be properly appreciated. They went from house to house and camp to camp, inspecting, regulating, instructing, and, where it was necessary, backed by the strong arm of popular consent, enforcing sanitary measures. Connections with broken sewers were closed, water was boiled, body discharge buried, waste brought to sidewalks, and pollution of the surface of the ground forbidden. As a result of these measures there was practically no sickness in the city during the few weeks immediately succeeding the fire.

The people were largely living in the open air, eating simple, plain and wholesome food, and the waste matter was reasonably well destroyed. Business activities were at a standstill and personal attention was given to sanitary conditions. When, however, the reconstruction began and the sanitary inspection, which had been strict, was relaxed, typhoid and other zymotic diseases became prevalent and for several months the mortality and morbidity rates were above the normal, although at no time sufficient to cause alarm. Conditions, however, were favorable to the spread of disease and especially one like plague, which is carried by vermin. The sewers were broken and afforded an excellent means of communication for the rats from one part of the city to another. The ruins of the city gave ample hiding-place and the remains of lunches from thousands of workingmen gave sufficient food and excellent means for propagation.

The plague epidemic of 1900-1904 had been wiped out and for three years no case had developed, so when in May, 1907, one year after the fire, a case was found on the tug *Wizard* it was thought to be a fresh importation, and there is yet no certainty that it was not. No great uneasiness was felt until August, when it broke out with fury and soon appeared in many parts of the city. The exact source of this infection will never be known, but, no matter whether it was a lingering infection from the former outbreak or a fresh infection, the conditions were excellent for the spread. Thousands of refugees were living in tents and shacks built of any material that would give the slight protection needed from the weather. These habitations were without sanitary conveniences and were built close to the ground. The city was full of stables where the accumulated refuse gave a splendid home for vermin. Old board walks on streets and in back yards and rubbish in basements of undestroyed parts of the city was as common as in other cities. Slaughter-houses in the suburbs were pestilential holes. The sewers were broken and the garbage poorly collected. Rats were plentiful, and a widespread epidemic prevailed among them with nothing to keep them from a close contact with the people. With these conditions it is no wonder that those who had had to deal with the former epidemic of plague stood aghast at the prospect and trembled for the future, especially as plague cases were multiplying rapidly, for in September there were fifty-five cases in the city. It looked gloomy for San Francisco. The loss by the fire and the tremendous expense following it had almost broken the city treasury; and the losses in public buildings had left the state in little better condition; so that there was not the money necessary at the command of the health authorities to conduct the campaign the conditions demanded.

More than anything else was needed a man skilled in combating great epidemics and backed by a power that could make itself felt. Aid was asked of the United States Public Health and Marine-Hospital Service, and Dr. Rupert Blue of that service was assigned to the work. His experience with the former epidemic, when he had carefully studied the rat and its connection with the disease made him the logical man for the place, and his natural qualities as a leader and diplomat added materially to his qualifications. He began at once to arrange for a sanitary battle such as probably had never before been fought. For his executive officer he chose Past Assistant-Surgeon W. Colby Rucker of the same service, a man in every sense of the word capable, honest, enthusiastic, loyal and a thorough organizer. Together they constituted a force which inspired confidence in all with whom they came in contact and proved themselves a credit to their service. Both state and city authorities recognized Dr. Blue as the leader, gave him their hearty support and looked to him for results; and their confidence was not misplaced.

A campaign of general sanitation was laid out, the city divided into districts, each under an able leader, and daily reports made to headquarters. The work to be done was to make the city sanitary. To do this rats must be destroyed, their breeding-places broken up, their food-supply stopped; to use the expression of Dr. Blue it was necessary to "build them out." Ordinances were passed by the supervisors supporting this policy and orders were issued by the State Board of Health whenever it was possible to strengthen the hands of the department. The city was spending $30,000 per month besides the aid given by state and nation, but little progress seemed to be made. The cooperation of the people was needed; and it is to the credit of the organized medical profession of California that this was secured. In January a meeting was called by the Council of the State Medical Society, to which were invited a large number of business men. A few responded and became so impressed with the danger that a resolution was passed asking the mayor to appoint a Citizens' Health Committee of twenty-five. This he did and their work was of the greatest aid in saving the city. The whole city was awakened and soon every man employing help was calling his employés together and having them addressed on the subject of sanitation; and every one was made a committee to see that his own and neighbors' premises were clean. The women and women's clubs became active and efficient agents in the work; and in a short time the whole community was more deeply stirred in a move for better sanitary surroundings than any other large community had ever been.

While the enthusiasm among the people for better sanitary conditions was doing wonders in the way of cleaning up which could not have been accomplished by the organized health authorities for several hundred thousand dollars, it was evident that more systematic work must be done to restroy rats, and the Citizens' Health Committee promptly raised over $175,000, which was expended largely in the warfare on rats. Each household was required by law to have a closely covered metallic garbage-can, and the law was strictly enforced. Stables were made rat-proof, and only such persons acceptable to the officer in charge were allowed to move the manure out of the city—this to prevent the spread of infected rats and to force the rat-proofing of the stable, it being cheaper to do this than to dispose of the waste by other means. Old wooden sidewalks were torn up, shacks destroyed, piles of rubbish in basements and yards cleaned out, openings to broken sewers closed, and lumber piled so that cats could get beneath. In fact, all hiding-places and runways of the rodent were disturbed and his life made miserable and short with trap and poison. In fifteen months 350,837 of the rats were caught, besides the vast number dying of poison and never found.

In a few short months conditions had entirely changed and San Francisco stood forth the cleanest large city in the country; 1,025,977 premises had been inspected; 11,342 houses disinfected and 1,713 destroyed; 4,291,000 square feet of concrete basement and area floor had been laid, and 1,190,000 in stables; 3,967 stables had been concreted and 903 otherwise made rat-proof; 5,000 chicken-yards had been made rat-proof and 11,000 vacated; and it is estimated that 2,000,000 rats were slaughtered.

There were still many sores and scars from the recent burn, but as a rule they were well cared for and clean. The streets were littered with building material and in many places broken, but that is no measure of a city's sanitary condition. The streets and front yards may be clean, the houses bright with fresh paint, but the back yards and basements filthy. The front is no more a criterion of a city's cleanliness than is the outer garment of a person's. The condition of basements, stables and backyards, the use of garbage cans and proper collection of garbage, the absence of rubbish and the rat-proofing of buildings are the true measures of its cleanliness.

The plague has been a costly lesson to California, but she has smilingly paid the price and is profiting by it in a low death and morbidity rate. The spirit for better sanitation was not confined to San Francisco, but spread to other cities, and hardly one but bettered its condition; and the extent of betterment can be read by comparing the death rate of the year following with that of the year before. A campaign, the outgrowth of the one in the city, is still going on throughout the state in a way never before tried. A car with models illustrative of sanitary conditions, showing causes of disease and methods of avoiding, eradicating and curing, has been fitted up by the State Board of Health. The car was furnished free by the Southern Pacific Railroad Company and with its lecturers and attendants is being hauled free of charge by all the railroads of the state. This could hardly have been possible before the plague, but now it is gladly—yes, enthusiastically—done and the resulting good is beyond measure. We may have other cases of plague; situated, as we are, at the gateway through which so much immigration and business with the far East must come. It would be strange if we did not; but we know it, its cause and its means of spread and are on guard. We have fought the first great battle for the country and have won. The second may be on us, but it is just as likely to be on some of you on the Atlantic coast. It has spread with steady strides in a few short years to almost every country on earth and you are not far removed by water from some of its strongholds; it behooves you to take heed and learn from our experience and begin the fight before it is manifest. Dream not that you will catch the first case and check it then. Before you find human cases you will have a thoroughly infected rat population. Your only safety is in the extermination of that enemy of mankind.

This is not such a hopeless task as it may seem. If each householder will but look after his own premises and destroy breeding-places and feeding-ground the work is done. The value of a popular sentiment that requires that each person keep his holdings clean was strongly impressed on us. This sentiment needs, however, in the case of stress to be properly directed and in this a national department with its officers outside political machinations, trained to lead, educated for the work, with no other business interests to distract, is preeminently the best.

Paraplegia in the Aged.—Lhermitte discusses the cerebral, spinal cord or muscular origin of paraplegia in the aged and the disturbances in gait which result from mere functional incapacity. The latter depend mainly on the emotional reactions, the dread of the infirmities of age and the tendency to stay in bed on the slightest pretext. The idea of its being impossible to walk becomes more and more settled in the old man's mind, especially as his will power is growing constantly weaker. In bed he can move his muscles, but when standing seems to be unable to take a step. He can be encouraged to walk, leaning on a cane or attendant, and may cover miles with this aid, but gives up at once if deprived of this support. This form of paraplegia may be curable as the patient is reeducated to walk, and it should be eliminated before considering the organic forms. His article was published in the *Bull. de l'Internat, December*, 1908.

THE FRENCH GOVERNMENT TOBACCO FACTORY AT ISSY, NEAR PARIS

HYGIENIC NOTES *

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While in Paris, France, during the summer of 1908, for the purpose of making some investigations in the department of hygiene, I received permission to visit the government tobacco factory at Issy les Moulineaux, near Paris.

I wanted to make some investigations in regard to the effects of tobacco on the eyes of the employés of the factory, along the line of similar investigation which I have made in the tobacco factories of America, but this permission was not granted; I was permitted, however, to examine into the sanitary condition of the establishment, and was afforded every opportunity in this direction by the courteous director of the factory. The following are some of my findings:

The large tobacco factory, situated at Issy les Moulineaux, a short distance beyond the fortifications of Paris, covers several acres of ground, and is about the largest factory of its kind in France. It employs 1,200 persons, of whom 1,000 are women and 200 are men. The structure is an immense one, built of stone and brick, and was finished in 1904, when the old establishment in Paris was removed to this location. It is up to date in all its appointments, has the latest modern machinery, and turns out only cigars, cigarettes, and tobacco for pipes. In the first division the machinery is all of French make. It turns out cigars and tobacco for pipes. There are some very ingenious machines there for compressing and packing tobacco into forty-gram packages (a little over an ounce). A machine will turn out 1,300 of these packages in an hour.

All the floors contain cuspidors with a disinfectant substance, and the rooms are kept scrupulously clean. In one room there is some American machinery that is made in London and Dresden. All the tobacco dust from the machines is conducted through pipes to a flue and escapes through a chimney in the roof, and in this way very little dust is to be found in the work-rooms, and there is comparatively little smell of tobacco. There are twelve large work-rooms in the establishment, each 40 meters long and 14 meters (about 130 by 45 feet) wide, with immense high ceilings. Besides these there are smaller work-rooms. The men are employed largely to do the heavy work, while most of the skilled work in turning out cigars and cigarettes is done by the women. The superintendent informed me that the women are more dextrous in the use of their fingers than the men, and hence are given the preference in this kind of work. I found some Cincinnati machinery in one of the rooms for turning out cigarettes. This room was called the American room.

Besides the rooms for French tobacco there is a large room devoted to American tobacco, labeled "Ohio," "Maryland," "Kentucky," etc. The colors of these grades of tobacco are about twelve in number. Each woman employed in packing the cigars in boxes has her number on the box, so that in case the boxes are not packed properly the superintendent can tell who is at fault. Most of the employés go home for dinner at noon; for those who remain there is a pantry and kitchen for warming their food. There is a library in the establishment, baths, an emergency hospital for those who may be injured, and a dispensary with a full supply of drugs for the factory doctor who visits the establishment daily. All the water used for drinking purposes is sterilized by machinery. There is a good-sized nursery (crèche) for the babies that the working women may bring with them, with a kitchen for preparing food, bath-tubs, closets for toilet, etc.

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The majority of the women here were much more mature-looking in appearance than those I saw in the factories in America. I saw no very young girls, and, of course, no boys. Smoking is against the rules in the establishment. The women did not present the anemic appearance that one notices among those employed in our American tobacco factories. The men showed no symptoms of tobacco infection that I could discern; and the medical director says that tobacco amblyopia rarely occurs among them. They do not smoke to the extent that our American workmen do, and, then, the cigars are lighter, and a good many cigarettes are used instead of the heavy cigars that our people smoke.

The sanitary condition of this factory is as good as that of any that I have ever visited. There was no crowding in the rooms; there was plenty of breathing space, and the employés all looked healthy.

All the tobacco factories are government property, and they yield an enormous revenue. For the year 1907 the total number of employés in the tobacco manufactories of France was 15,171; of this number, 13,239 were females and 1,932 were males. There are twenty of these manufactories in France situated in the following cities: Bordeaux, Châteauroux, Dieppe, Havre, LeMans, Lille, Limoges, Lyons, Marseilles, Morlaix, Nancy, Nantes, Nice, Orleans, Pantin, Issy les Moulineaux, Reuilly, Riom, Tonneins and Toulouse. All the employés, both men and women, are eligible for retirement at the age of sixty-five, when they are pensioned by the government. By a law of March 22, 1905, the male employés are appointed from the soldiers who have served for at least four years under the French flag; consequently they are at least twenty-five years of age before they are employed in the factories. Foreigners are not employed in these factories; occasionally, however, exceptions are made, and foreigners are appointed; especially in the case of French women who marry foreigners, for the women thence by virtue of such marriages become foreigners, according to the French law. If they are employed before such marriages, they are retained in the factories under the classification of foreign employés. These marriages occur mostly at Nice, Toulouse, etc., the seaport towns of France. Women are not employed if they are beyond twenty-eight years of age, and practically the minimum age is eighteen years. That disgusting practice of chewing tobacco, too prevalent among our Americans, does not exist among Frenchmen.

A medical director who resides in Paris is at the head of the medical department of these tobacco factories, as well as the other factories of the state. There are local physicians attached to the various factories, whose duty it is to look after the hygienic condition of the institution, as well as to care for any of the employés who may be injured while on duty. These physicians are all under the supervision of the medical director at Paris.

As will be seen, there are no minors employed in these French tobacco factories. This is as it should be. They should also be excluded from our tobacco factories in America, and for this purpose we should have government supervision of our tobacco factories so as to have uniform laws enacted forbidding their employment. As it is now, each state makes its own laws governing the matter, and they are not uniform and very often they are not enforced. I know that in my city there are a large number of boys and girls employed in these factories, and I suppose it is the same in the tobacco factories of other cities. They are employed on the score of cheapness, as they command less wages than the adult. In my investigations made in our factories I found that nearly all of the boys employed there smoked to a greater or less extent. The environment of the factory seemed to stimulate this habit.

In the minor the use of tobacco in any form is highly injurious, interfering with the normal development of the mental powers, producing various nervous disturbances, especially nervous disturbances of the heart, as manifested by palpitation, weakness, irregular action, irritability and anginal pains.

The action of tobacco on the heart is well set forth in the Lettsomian Lecture by J. Mitchell Bruce:[1]

> In young men whose circulation is still structurally sound, the uncomplicated effects of tobacco, as presented clinically are palpitation in every instance; a sense of irregular action, poststernal oppression and pain in half the cases; and in one out of every eight either angina or uncomfortable sensations in the left arm; faintness or actual faints in one-third of the cases; giddiness and a feeling of impending death in a smaller proportion. As to physical signs, the heart proves of ordinary size in 50 per cent. of the cases, in a few slightly enlarged; the precordial impulse is very weak, but occasionally increased in force and frequently, and likely as not to be irregular; the pulse tension, with insignificant exceptions, is low. Of twenty patients, not one presented a cardiac murmur beyond a weak mitral systolic bruit, variable with posture and cubitus.

That the habitual use of the tobacco by the young causes stunting of the physical and mental growth is set forth in the observations of Seavers, of Yale University, who has for years studied the growth of students during their four years' time at the university. He observed that those who do not use tobacco increase in weight, height, chest girth and lung capacity more than those who do use it. He states that Hitchcock, of Amherst, has made like observations.

On those who are more advanced in life, from forty upward, tobacco seems to spend its force more particularly on the eyes, producing a gradual but progressive reduction of the visual power, together with a confounding of colors for central vision. Out of something like 3,000 cases examined by me, during a period of ten years, in the tobacco factories of Cincinnati, more or less disturbance was noticed in about 5 per cent. of the cases among the male employés who used tobacco to excess. The females were exempt.

The deleterious effects of tobacco on the system in general, or on the eyes, is due, as we all know, to the presence of a poisonous ingredient called nicotine. This oily, colorless fluid diffuses itself into the blood with as much rapidity as prussic acid, and a poisonous dose has been known to kill an adult in three minutes. Nicotine when heated to 250 degrees becomes volatilized and decomposed, but if watery vapor is present volatilization takes place without decomposition. When dry tobacco is smoked, the greater part of the nicotine is decomposed by the heat and passes off with the smoke. The more moist the tobacco—and the cheaper grades are usually damp—the more this is retarded. The cheaper grades of tobacco contain more nicotine than the more expensive ones, and consequently are more injurious to the consumers. The tobacco used for chewing purposes is usually very rich in nicotine. The action of nicotine on the blood is an interesting one; it first produces a temporary increase in the blood pressure; this is followed by a more prolonged reduction of the pressure, and this again is followed by an increase in the blood pressure (Tschirwinsky).

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[1] Bruce, J. M.: Brit. Med. Jour., March 23, 1901.

On the blood corpuscles themselves nicotine exerts a marked influence. The red corpuscles become serrated in appearance, and when the drug is administered in large doses partial disintegration of the corpuscles takes place. In the experiment of Hare they are shown to arrange themselves in columns, instead of in rouleaux, in such a way that the edge of one corpuscle touches the edge of its neighbor. If the poison is added to the specimen under the microscope, the red corpuscles appear to disintegrate, and their diameter becomes smaller, whereby for the most part their concavity is diminished and they become colorless and transparent.[*] Vas has shown that in chronic tobacco-poisoning the number of red corpuscles is reduced, whereas the number of white corpuscles is increased. The action of the poison is particularly marked on the white corpuscles. Their motion, which on the artificially warmed slide continues, is, as the Hare experiments show, immediately retarded by the addition of nicotine; the blood corpuscle, on its part, breaks up into eight or more divisions, which from time to time separate and swim in the fluid independently of each other. These divisions are round in appearance and bear a strong resemblance to the red corpuscles. The globular shape which the white corpuscles often assume does not appear after the addition of nicotine, but the protoplasm remains without change in the condition in which it appeared when motion was suspended.

Nicotine exerts a direct action on the oxyhemoglobin, and it is probable that it is in the reduction of the latter that nicotine acts as a causative agent in the production of asphyxia. The disintegration of the red corpuscles described above points to the correctness of this conclusion; therefore, death following nicotine poisoning is not simply in consequence of the usual asphyxia from depression of the respiratory center *per se*, but is due to the fact that the hemoglobin fails to carry oxygen to the various parts of the body.

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ABSTRACT OF DISCUSSION

Dr. W. Forrest Dutton, Walker's Mills, Pa.: I have used the Riva Rocci instrument a good deal in recording these cases. I have not examined a large number, but I have examined enough to know that smoking, as a rule, raises blood-pressure and keeps it high for a considerable time. It would seem to me that the men and women working in a tobacco factory side by side would be affected in the same way; but this paper states that the men were affected by this particular eye affection and the women were not affected. I should like to have some explanation of that phenomenon for my own edification.

Dr. Francis Dowling, Cincinnati: I found, in my examinations in the tobacco factories, that the air of the factories does not produce either a toxic infection of the eyes or of the system in general of the employés. It was only in those who used tobacco in smoking or chewing that toxic symptoms were manifested. The reason the women are exempt is that they do not usually smoke or chew tobacco. I found that some of the men, on the other hand, smoked as many as 18 or 20 cigars a day, and the degree of tobacco infection, especially of the eyes, was usually proportionate to the amount of tobacco consumed.

FACTORS WHICH CONTRIBUTE TO A REDUCTION IN MORTALITY IN ABDOMINAL SURGERY [*]

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In submitting this subject for discussion, I do not hope to offer anything new, but desire merely to present an outline, an approach to which has served to reduce my mortality and to improve my results in other respects.

In offering surgical relief in an individual instance, we should be prepared to give the following reasonable and adequate assurance:

First.—That the risk to life, as this particular operation is to be done, is not out of proportion to the gravity of the disease. What chiefly concerns a patient undergoing operation is the risk to which she is subjected by the given surgeon with the facilities at his command, and not the death rate from this particular operation as done by the masters of surgery. In surgery, as in every other sphere of human endeavor, the element of personal equation largely determines results—one operator will habitually have a low mortality, another will achieve an occasional brilliant result, while the work of still another will always be mediocre. The patient who submits to an abdominal operation stakes her life on the ability of the operator to command proper facilities and to do consistently high-grade work.

Second.—That if the patient recovers from operation, there should be no essential reason why she should not have the desired relief—i. e., that the patient should not be subjected to the risk of a grave operation if she can not be cured of the disease, as is the case in advanced cancer. It would be unwise, also, to remove a uterus for fibroid tumor, if coincident and grave cardiac, pulmonary or renal disease would almost certainly cause permanent invalidism, and if the depression incident to operation might easily prove fatal.

Third.—That the conditions under which operation is to be done should be such that no other combination of circumstances could offer less risk to life, or a greater degree of security against postoperative complications.

Fourth.—That in removing one type of pathology we may be able to avoid substituting another type which might readily entail greater discomfort and danger than that removed. A patient who exchanges a retroverted uterus for an incisional hernia or serious intestinal adhesions can scarcely be said to have profited by the exchange. Such unfortunate results will undoubtedly be encountered occasionally by the most careful, skilful, earnest and successful surgeons. If such occurrences are rare, it may be wise for a patient to take the slight risk—but if in individual hands they occur with marked regularity the risk under such conditions is manifestly out of proportion to the benefit which may be reasonably expected.

Fifth.—That no other less onorous kind of treatment could effect the desired result in a more satisfactory way. For example, salpingitis and pelvic peritonitis often may be completely cured by a relatively short period of rest and medical treatment. Precipitate removal of diseased organs under such conditions would be manifestly unwise. It often happens that a well-fitting pessary completely relieves the discomfort due to uterine displacements; on the other hand, one often finds the perineum so badly damaged that no type of pessary can be retained. Under these conditions safe surgical correction is desirable.

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[*] Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Sixth.—That the benefit to be derived from operation should reasonably be expected to compensate the patient fully for the risk to life, discomfort, loss of time, inconvenience, degree and duration of disability, and the cost of operation and still leave a decided balance of benefit to the patient's credit. The simplicity of the procedure and the success of the operator in the surroundings and under the conditions which exist should be such as to afford adequate warrant for the belief that a high degree of success will attend this particular operation on this particular patient.

Just in proportion as a surgeon is accurate in these estimates will his judgment be good, his counsel wise, and his results satisfactory.

I am fully aware that such restrictions imply a degree of skill and judgment that it is difficult to acquire. Yet the moral law and statutes confer on us broad privileges in handling human lives provided we recognize and respect the sacred trust such privileges entail. If we respect those laws we must realize that many factors contribute to a high percentage of recovery with ideal convalescence. Chief among them are a due appreciation of the functional value of anatomic structures, a comprehensive knowledge of the principles of pathology, the recognition and correct interpretation of gross pathologic lesions in the living subject, an intimate knowledge of the habits and accidents common to the structures with which we come in contact, a correct estimate of the patient's reserve strength, a wise choice of time and type of operation, a rigid aseptic technic, a considerable degree of manipulative dexterity and such *ésprit de corps* among one's group of coworkers as will permit of operative speed and precision.

It is clear that to accomplish these aims necessitates a fortunate combination of time, adequate facilities, proper training, special aptitude, and assiduous application. Yet they are the requisites of uniform success and as such constitute the most important factors in the prophylaxis of postoperative morbidity and in the reduction of mortalty.

A comprehensive knowledge of the fundamental principles of pathology is essential to a correct interpretation of a given morbid process; to a forecast of its further course; and to a fair estimate of its present and future effect on the patient in question.

ACCURATE KNOWLEDGE OF THE NATURE, EXTENT AND TREND OF DISEASE

While it is practically impossible to make an exact diagnosis in every case before opening the abdomen, the careful and well-trained surgeon should be sure of the intra-abdominal condition in from 90 to 95 per cent. of cases. In estimating the needs of the individual patient it is not sufficient merely to know the nature of the disease for which relief is sought. One should know as well the influence it is having on the host, and also the extent to which it is modified by other pathologic processes affecting the individual. Should there be no other associated disease, it is still necessary to have exact knowledge regarding the lesion under consideration. The several stages through which the pathologic process passes, and the varying influence it exerts, make such knowledge essential to a wise handling of the disease.

Every type of pathologic process affecting the pelvic organs affords striking and frequent examples of the foregoing propositions. For instance, one's conception of early carcinoma of the fundus of the uterus which has scarcely invaded the muscular wall is entirely different from that of advanced adenocarcinoma of the cervix which quickly invades the parametrium and gives distant metastatic involvement. The treatment based on this conception differs quite as widely. Immediate hysterectomy in the first instance may be accomplished with little risk and is exceedingly likely to yield a radical cure. In our present state of knowledge one could hardly excuse a hysterectomy for advanced adenocarcinoma of the cervix and surrounding structures which would be attended by great risk to life and scarcely a possibility of even temporary relief.

One familiar with the progress and clinical aspect of varying types of uterine fibroids should reasonably expect to forecast the future course of events in an individual instance with the same degree of precision that the astute clinician anticipates complications in the course of pneumonia, diabetes, nephritis, arteriosclerosis, etc. For instance, if a patient of 37 or over has a growing interstitial or submucous fibroid, and for a year or more has lost an increasing quantity of blood, it is not necessary to permit the development of marked anemia with cardiac and vascular changes, nephritis, etc., before realizing that she represents a clinical type, tending inevitably to that end. On the other hand, a woman of like age or younger, with a small inoffensive subserous fibroid need not, at some risk, forfeit her chance of becoming a mother, by unnecessary haste in operation. A mere reference to such contrast of cases might seem out of place in this presence, and yet in my experience fully 40 per cent. of fibroids that have come to operation have shown some form of degeneration of the tumor, or serious cardiac, vascular or nephritic changes. Manifestly the time of election for operation comes before there is such debility as to retard convalescence.

The need for precise and comprehensive diagnosis is especially great in dealing with inflammatory affections of the genital tract—thus the outcome and hence the treatment may differ widely in such pathologic processes as true cellulitis with dense inflammatory exudate, on the one hand, and salpingitis, on the other. In each of these affections the best course to pursue may vary materially with the duration, extent and trend of the disease.

Equally wide differences in clinical aspects and treatment may arise in the course of such affections as ovarian cysts and tubal pregnancy.

EXACT DETERMINATION OF THE PATIENT'S RESERVE STRENGTH

The most frequent, the most perplexing and at the same time the most important decision the surgeon is called on to make relates to the margin of reserve strength possessed by the individual patient and the extent to which that margin will be encroached on by the method of obtaining relief. He must recognize the fact that a definite percentage of reserve strength is essential to the absolute needs of existence. It is evident that the energy that may with safety be dissipated by operation must come from this margin of reserve strength above the absolute needs of existence. The risk of operation increases just in proportion as this margin is encroached on. It is important that surgeons should analyze the composite picture of reserve strength and strive diligently to reduce it to an exact analysis. It is clear that this margin depends on the functional value of all the vital organs [illegible]culature.

It is usually [illegible] the functional value of each of these several structures by well-known clinical methods. To eliminate the element of chance it is essential that such clinical methods should be habitually and systematically employed. There would seem to be, however, a small percentage of cases in which the available tests are inadequate, notably those in which sudden death occurs in the course of what appears to be a perfectly normal convalescence, with or without evident fatal embolism; postoperative nephritis occurring in what appeared to be previously healthy kidneys; and rare evidences of death due to acidosis, the urine having previously been free from sugar, diacetic acid, and other abnormal constituents.

JUDICIOUS ADAPTATION OF TIME AND TYPE OF OPERATION TO INDIVIDUAL NEEDS

The wise adaptation of the time and type of operation to individual needs is essential to uniform success. It demands prompt decision and constitutes the severest test to which a surgeon's judgment is put.

It is not always easy to refrain from surgical intervention when a patient lies critically ill and is apparently growing worse from an intra-abdominal affection which will clearly demand operation at some stage of its existence. Yet if we except accidents and injuries to hollow viscera—strangulated hernia, perforation, etc. —it seems clear to me that an increasing percentage of so-called emergency work can be reduced to the safer planes of incomplete and elective surgery. In all surgery there is scarcely a more hazardous procedure than the removal of a large universally adherent, infected ovarian cyst at the height of an acute and exhausting illness. It often happens, however, that evacuation renders subsequent removal simple and safe. At times such an emergency as torsion of the pedicle of an ovarian cyst is rendered more serious by a severe complicating nephritis. To withhold surgical relief may seem a hazardous procedure and yet it is often surprising to see the marked improvement which follows delay and restored renal activity. It occasionally happens that the completion of an operation would probably prove fatal, whereas temporary failure may later be followed by safe operation.

When pronounced anemia and cardiac and renal complications accompany uterine fibroids the most gratifying results are often attendant on a few weeks of preliminary treatment. A number of patients who had for some months been going progressively down until they were almost exhausted have improved sufficiently to permit of safe hysterectomy and speedy convalescence, whereas more precipitate operation might readily have proved fatal.

My conviction daily grows more firm that by converting acute inflammatory affections of pelvic structures into aseptic lesions the need for operation and the postoperative morbidity and mortality may be greatly reduced. This conviction is based on an increasing number of complete recoveries without operation and a series of 475 consecutive abdominal sections for inflammatory lesions of tubal origin with only four deaths.

When operation is done while inflammatory exudate still infiltrates intestinal walls, injury with subsequent fecal fistula, adhesions and intestinal obstruction, are far more common than when internal sterilization of pus (tubes) is practiced. In the series of cases just referred to (475 sections for quiescent inflammatory products) there have been only two cases of partial intestinal obstruction. One of these was subsequently relieved by operation. The other did not require it. These four complications occurred in cases in which operation was done relatively soon after the acute attack had subsided—that is, just as the last of the exudate was being absorbed. During the period in which these sections were being done for inflammatory lesions something more than a thousand sections were done for other types of pathology without a single fecal fistula, and, so far as I know, with only one case of partial intestinal obstruction, which occurred two years later.

A GROUP OF COMPETENT COWORKERS

I consider the proper organization of a surgical service an important factor in the reduction of mortality. The method which seems entirely satisfactory in my service at the Allegheny General Hospital consists in dividing the work into several departments and having a corps of competent and continuous workers in each. The corps of workers consists of:

1. A thoroughly reliable and efficient first assistant is, I believe, essential to quick, precise work and uniform success. Dr. S. A. Chalfant, who was anesthetist for a considerable period of time, has occupied the position of first assistant for a number of years.

2. A skilled anesthetist, on salary, who, in addition to giving all anesthetics, is responsible for a typewritten record, embodying all details regarding diagnosis, operation, pathologic lesions found at operation and a description of specimens removed. It is his further duty to keep tabulated records of postoperative facts in any way due to the administration of the anesthetic.

3. A pathologic department consisting of an expert pathologist cooperating with the pathologist of the institution and having a competent salaried assistant. Among other things, it is customary to have routine examinations of blood at stated intervals before and after operation, and at other times if occasion arises; to examine the urine before operation and each 24 hours thereafter for two or three days, or as long as any abnormal constituents are found. The routine urinalysis embraces among other things a quantitative estimate of the acetone bodies both before and after operation; systematic bacteriologic investigations and histologic examinations of specimens and discharges are made.

4. The Nursing Corps.—Much depends on the proper organization of one's corps of nurses. A group of intelligent, earnest, systematic, diligent nurses, who take a deep personal interest in promoting the comfort, security and welfare of each patient, contributes much to the efficiency of one's work. The arrangement we have had at the Allegheny General Hospital has proved satisfactory in method and personnel. (a) There are efficient graduate head nurses in charge of the private and ward floors. They have the usual group of undergraduates. (b) An unusually competent graduate nurse has for a number of years been in charge of the operating room and of the preparation of all dressings used therein. She also prepares the field of operation in clean cases. She has two undergraduate assistants. (3) A plan which I can not commend too highly is the employment of a continuous group of postoperative nurses chosen because of especial aptitude and fitness for this particular type of work. Each patient subjected to abdominal section should be under the care of such a competent graduate day and night nurse for the first 48 hours, or as much longer as the patient's condition may demand. They add much to the comfort, and, by being

skilled and alert, to the safety of patients. Private patients gladly pay for this service—the hospital supplies it to charity patients.

MINIMUM AMOUNT OF ANESTHETIC

Undoubtedly one of the most important advances in major surgery during the last century was the introduction of anesthetics. During the last decade one of the most important advances has been the uniform and progressive tendency to reduce the quantity of anesthetic. This has resulted from a better understanding of the frequency, nature and extent of the deleterious effects they cause. It has been accomplished by the employment of skilled anesthetists, by the adoption of better methods of administration and by such improvement of team work in operative technic as reduces the duration of operation.

While fully recognizing the extent of our indebtedness for anesthetics, and to those who introduced them, we must not lose sight of the fact that, while doing immense good, anesthetics usually cause distinctly harmful results. These results are expressed in a definite clinical picture which is always present but in varying degrees. One almost invariably sees marked muscular depression and interference with glandular secretion as evidenced by parched lips, intense thirst, usually nausea and vomiting, and a reduced quantity of urine.

When this disturbance is more marked the air passages may become affected, the circulatory system depressed, metabolic disturbances occur, and hepatic and renal functions may be markedly or even seriously vitiated.

The more thoroughly one investigates these subjects by careful observation of symptoms and systematic preoperative and postoperative analysis of secretions, the more fully does one realize that the anesthetic is perhaps the most important factor in determining operative mortality. The truth of this proposition has repeatedly been demonstrated to my entire satisfaction by contrasting the postoperative condition of two classes of patients: The one class embraces such operations as appendectomy, cholelithiasis, hysterectomy for fibroid, etc., on good subjects under ether anesthesia. The other class includes a number of patients operated on for gallstones, large adherent ovarian cysts, appendicitis, etc., who were also the subjects of such grave cardiac, renal or pulmonary disease as positively contraindicated the use of a general anesthetic. The observation has been so common as to be almost universal, that in the grave cases without anesthesia the patients were some hours later, in much better condition than the patients in the simpler cases to whom ether was given, and that convalescence was almost uniformly more smooth and satisfactory. I would emphasize the fact that this striking difference was in favor of the patients who would almost certainly have died had a general anesthetic been administered.

The method we have found most satisfactory has been the continuous services of a skilled and salaried anesthetist who uses the open or drop method, with the coincident administration of oxygen, using a soft catheter introduced through the nose. The use of oxygen in this way has, among other things, almost done away with nausea and vomiting.

I believe that a full appreciation of the possible harm that might result from the administration of anesthetics, and a careful study of the circulatory, respiratory and urinary tracts before operation, has contributed no little to the maintenance of a low operative mortality in my service. It has also done much to reduce the frequency and severity of such postoperative complications as are attributable to this cause. Pneumonia and bronchitis are exceedingly rare; shock and other circulatory disturbances are almost never seen, and urinary complications are much less frequent and serious than formerly. There have been only 13 deaths (1.86 per cent. mortality) in the last 700 consecutive laparotomies.

RIGID ASEPTIC TECHNIC

A rigid aseptic technic is unquestionably the foundation on which all modern surgery rests. Without it there can be no uniform success. Without it the certainty, nature and extent of postoperative complications is such as to render elective surgery rarely, if ever, justifiable. The development of a rigid aseptic technic demands that the surgeon, his assistants and all others who come in contact with the field of operation during the period of preparation, operation or postoperative care, shall absolutely avoid contact with any wound, dressing, receptacle, or other structure or article which is not surgically clean. This implies the use of sterile rubber gloves in all physical examinations of patients, presumably free from open foci of infection. It implies even more rigid care in examinations made in the presence of discharges from open wounds. Uniform aseptic success demands that such precautions be taken every day in the year; so that the most important instruments concerned in operation, the hands and their covering, shall remain as nearly aseptic as possible. The hands having been kept continuously clean, the risk of infection is further reduced by the use of well-fitting rubber gloves of good fiber. These principles apply with equal force to the operator, his assistants, the nurses in the operating room and those who have the care of the field of operation. Such a rigid aseptic technic forces on us recognition of the undoubted fact that hospitals are clearing houses for all types of infection. With rigid technic, proper segregation of patients, and such division of labor as precludes the intermingling of caretakers of septic and clean patients, it is easily possible to do elective work with uniform aseptic results. We should never lose sight of the fact, however, that when the least relaxation occurs the conditions are analogous to those which exist when a powder mill and a match factory are operating under a single roof.

SPEED WITH PRECISION

If a surgeon is called on to operate at a distance, in a definite and considerable percentage of cases, he will lack essential facts which should guide him in deciding for or against operation, the type of procedure to be employed, and the time of election and the conditions under which it should be done. If he operates under such conditions, the death rate will be unnecessarily high. If he declines to operate, an embarrassing situation arises.

I can not too strongly commend the wisdom of operating habitually in one's accustomed surroundings. By doing so and exercising constant effort to develop systematic methods, it becomes possible to have the duties of one's coworkers proceed with clockwork precision.

With such a well-organized corps of workers, the division of labor may reach such a degree of efficiency that the operator may concentrate his entire attention on his individual work—arriving with unnecessary interruption at prompt decision regarding the fate and function of structures, the type of operation best suited to individual needs, and essential methods of technic.

By such an arrangement, one will more uniformly do the operation best suited to individual needs; good team work, celerity and precision reduce the time required for operation, the quantity of anesthetic employed and the possibility of such accidents as slipping ligatures, losing pads, peritonitis, infected pedicles, stitch abscesses, etc. In one's accustomed surroundings, where a definite, systematic and careful technic is employed, it is rarely necessary to improvise. He is a poor surgeon who can not improvise if an emergency demands it. He is a poorer one who habitually or frequently allows himself to be placed in such a position that he must improvise. The act of improvising is evidence that an operator is substituting an inferior method of procedure for one he would prefer to employ in the individual case. While untoward results may rarely follow, ample room exists for the element of chance to enter.

The evolution of systematic methods and technic employed in operating rooms will necessarily vary according to individual requirements. The simple technic which has proved satisfactory in my operating room at the Allegheny General Hospital is briefly as follows:

In order to reduce the chance of transmitting infection to a minimum only three persons are supposed to have clean hands—the operator, the first assistant, and interne; they scrub their hands with soap and running water for twenty minutes, and then use such chemical antiseptics as will not injure the skin. Solutions of potassium permanganate, oxalic acid, bichlorid of mercury and, finally, alcohol being the sequence preferred, but if either of these solutions is irritating to the skin it is omitted.

All instruments and dressings used during operation are taken directly from the sterilizer by the first assistant. The arrangement of dressings and of instruments in trays and on tables is always exactly the same, thus enabling any one connected with the operation to find a desired article without a moment of hesitation.

In order to avoid unnecessary handling and consequently arousing of patients, they are anesthetized on the operating table, which is then rolled into the operating room.

While the first assistant is arranging instruments and dressings, the head nurse has the patient placed in proper position so that the interne proceeds at once to cleanse the field of operation. While the operator adjusts protecting sterile cloths, the first assistant verifies the count of abdominal pads and the head nurse places the instrument and dressing tables in their respective places.

The instrument table is placed within reach of the operator; as the instruments always occupy exactly the same position in the several trays it is easy to pick up any desired instrument without even turning the head. The first assistant having verified the number of pads available for use, must account at the end of operation for the number, which must always be a multiple of five. In order to avoid error, as soiled pads are discarded, the head nurse has one of her assistants collect these pads and pin them together in sets of five. These sets are then arranged in definite order so that with the greatest economy of time the head nurse may at any moment give the correct count of discarded pads. To this number the first assistant adds those in his keeping. If the aggregate is not a multiple of five, one or more pads must be found within the abdomen or elsewhere. So far as we know, a pad has never been left within the abdominal cavity, though without such a definite system I am confident such an accident would probably have happened.

The instruments, needles and suture materials are in the hands of the interne. It is our desire to simplify methods so far as possible, so only four types of needles are used. Each needle has its definite purpose. It always carries its definite kind of sutures—the suture material employed is limited to silkworm gut, celluloid linen No. 1, and the finest catgut, that will give a fair degree of tensile strength. We usually employ commercial catgut which is contained in hermetic glass tubes and is supposed to be sterile. Before using, however, the tubes are boiled for half an hour on two successive days.

It is my belief that the head nurse can accomplish most by being free to adjust the patient, to arrange instrument and dressing tables, irrigating stands, solutions, intravenous sets, hypodermics, if needed, supervise the counting of pads, send specimens to the laboratory for immediate frozen section, etc. We accordingly prefer that she should not have sterile hands.

The head nurse and her two assistants make all dressings used in the operating room—and see that a supply of all appliances used is constantly at hand.

It is our desire to make the postoperative treatment of patients as simple as possible, especially to minimize, so far as possible, the petty annoyances which disturb patients unnecessarily, etc. They are kept as quiet as possible, they are rarely catheterized—ice is usually applied to the abdomen—continuous enteroclysis, normal salt solution, Murphy method often serves a valuable purpose. The patient's position may be about what she wishes, unless there is some especial reason to avoid moving, such, for instance, as the use of drainage.

CONCLUSIONS

In conclusion, I believe that an accurate knowledge of the nature, extent and trend of disease, and exact determination of the patient's margin of reserve strength; a judicious adaptation of the time and type of operation to individual needs; a group of competent operative coworkers; a minimum amount of anesthetic; a rigid aseptic technic; and speed with precision, are factors which will yield a low mortality and highly satisfactory operative results.

ABSTRACT OF DISCUSSION

Dr. C. A. L. Reed, Cincinnati: Operative celerity consistent with the safety and precision of operation, with reference not only to minimizing the time but the amount of the anesthesia, is a matter that cannot be emphasized too strongly. I was invited for three o'clock one afternoon some time ago to witness an operation that was done in the patient's house, where it ought not to have been done. I arrived nearly half an hour late, expecting that the hysterectomy would have been concluded. I not only was not too late, but I had the opportunity of holding a coal oil lamp for over an hour after nightfall until the operator got through with his work. It is needless to say that the patient died. Recently a patient was kept under anesthesia for a simple perineorrhaphy for 2½ hours. Operations of that kind are being done with a frequency that is alarming, and the sooner this Association states its disapproval of this slovenly method the better. I have been in operating theaters, with good operators in charge, in which I have seen the surgeon, instead of paying strict attention to his business, engage in conversation with those about him, while the patient was being kept under an anesthetic, thus unnecessarily and dangerously prolonging the period of operation. I recall with pleasure that celerity was one of the great points constantly emphasized and exemplified by the late

Lawson Tait, than whom no more successful operator ever lived. Those who had the privilege of seeing him operate will recall with what promptness he did his operations, with what general precision they were done, and all will testify to the high grade of his results. The point to which he constantly called attention was the importance of minimizing the anesthesia with reference to sparing the patients from metabolic difficulties due to taking too much anesthetic. The time has arrived to proclaim, and I think the protest should go forward in no uncertain terms, that that surgeon who consumes an unnecessary amount of time in the performance of the operation subjects his patient to an unnecessary danger. Therefore, when a surgeon begins an operation, let him begin and pay attention to his business and keep at it until the work is safely done. And this reminds me that there are other phases of the question, either actually raised or suggested by Dr. Simpson's paper—and that is as to the question of surgical competency. This is an issue that we have been dodging in one way or another for a long time. It is one that nobody likes to take up. But we all know that a lot of surgery is being done by a lot of operators who are not qualified for the work. I shudder when I think of the possible unnecessary mortality due to this cause. In one of the states, Colorado, I believe, a bill was introduced last year that was intended to put a curb on this abuse by establishing a supplementary state license on surgery. I don't know what came of the bill, but I do know that the mere fact that such a bill was framed shows that the public is taking cognizance of the fact that general medical qualification does not always imply special surgical qualification. The fact is that surgical work is being cheapened by average amphitheater exhibitions. There is too much of this thing of going for a day or a week "to see the Mayos" or "to see Murphy," or "to see Richardson," or "to see Matas," and then coming back a full-fledged surgeon. The postgraduate schools with their semi-diploma certificates are far from being without responsibility for this situation. The fact is that the "smatter-courses" ought to be suppressed. Let us get to the point of thoroughness, to the point of apprenticeship, to the point of broad fundamental culture, to the point of careful manual training, and away from the irresponsible promiscuity that now too much characterizes the surgery of this country.

Dr. J. H. Carstens, Detroit: The patient should be carried into the operating room and anesthetized without having time to think of the operation. The shock and dread kill many patients. Another point that I wish to make is that slow operating is bad practice. No one can operate with gloves so quickly as without, so I operate with my bare hands. I see men do all kinds of operations with gloves on. These often tear during the operation and naturally will infect the patient. In order to do good rapid surgery one must have asepsis and absolutely clean hands all the time, and that means that the surgeon must not at any time put his fingers into a dirty place. If he ever gets his hands contaminated it will take many weeks to get them clean, no matter what the antiseptic or what amount of scrubbing he employs. If I make a mistake in diagnosis and find that I have a pus case I quickly put on gloves.

Dr. H. J. Boldt, New York City: Dr. Simpson said that operators should be careful to make an exact diagnosis in cases in which they intend to operate. That is very nice and while an exact diagnosis should be made in 95 per cent. we must not put the burden on the operator so much as the teachers who are connected with schools sending out men who are in time to be operators. A great many men who enter the field of surgery take a postgraduate course of six weeks or two months and go out, considering themselves specialists in certain lines of work. It is not possible that any one can learn a proper technic in so short a time. Pupils in their senior year should be taught how to make diagnoses. The method of treatment will come of its own accord if a correct diagnosis is made.

Dr. C. S. Bacon, Chicago: It seems to me pertinent to call attention to the proposition that a special license be required for surgical operators. Last year such a measure was presented to the legislature of Colorado, but it was not endorsed by the profession. It, however, shows the trend of the times and undoubtedly there will be a great deal more proposals of the same kind in the future. The importance of proper training in diagnosis and especially in surgical technic is admitted by all. Does every one who receives a license to practice possess such training? We all know that he does not and it is manifestly not right that every one should have the license to perform all sorts of operations.

Dr. F. F. Lawrence, Columbus: One contributory factor in shock which has not been mentioned is unnecessary traumatism. I care not whether it be by stuffing the abdomen full of gauze or by bruising the tissues with retractors. Every surgeon should teach that such unnecessary trauma is unsurgical. What useful purpose can a lot of gauze stuffed into the abdomen serve? None. There is seldom any necessity for putting a metal retractor in the wound. If there is a bleeding vessel down in the wound or in the pelvis or back in the mesentery it may be necessary for a moment only. When we teach that we must prevent every unnecessary trauma we will save our patients shock and forestall one of the elements of infection. There can not be infection in normal tissue.

Another thing: Operations should be done in a dry field. Sterilizing should be done the night before, a double sterilization; germs grow only in a moist soil. Ligatures should not be tied too tight. Strangulated tissue is dangerous and no matter how slight the strangulation may be it causes shock.

Dr. Robert T. Morris, New York City: We are now on the verge of a fourth era of surgery. The first era was heroic. The next, anatomic. The third, now prevailing over the world, is the pathologic, in which we expect by mechanical measures to remove the causes and products of infection. The fourth era, on which we are just now entering, is the physiologic, which includes the idea of conserving all the natural resistance of the patient and allowing him to do what we have tried to do in a crude way mechanically. If we are to allow the patient to do this by conserving his self-resistance, we are to accomplish it by avoiding all the causes which shock the machine which is making phagocytes and opsonins. The patient has no other business. His business immediately after operation is manufacturing and if we interfere with the work of this machinery by long-continued operation, by long and unnecessary technic, by performing taxidermy on a patient with gauze, we prevent that patient from manufacturing his phagocytes and opsonins. An important point among those brought out by Dr. Simpson is asepsis. If I were anchoring a floating spleen I would wear a mouth mask, cap, and rubber gloves. If I were operating on a case of appendicitis with abscess, I would not wear a mouth mask, or a cap, or rubber gloves, and it would make no difference whether I washed my hands after the operation or before. If pus were spread on the normal peritoneum in the course of the operation I would leave it there. I would get in and get out. I would leave the patient with a normal resistance which would care for that pus so much better than I could care for it that his chances for recovery would be very much increased. In anchoring the spleen we might take twenty minutes for the operation; but for the pus case with appendicitis, we should not make the operation longer than five minutes if possible.

Dr. Horace G. Wetherill, Denver: The established immunity which occurs in certain acute cases is important and frequently such patients should be tided over the acute stage. The general tendency of the last few years has been to do this with certain peritoneal infections, notably with those from appendicitis. Far too many operations have been done for acute pelvic infections and often with extremely bad results. The bill which Dr. Bacon referred to for the control of surgical operations was presented in the legislature of the state of Colorado. It was not approved by the local medical profession. As president of the Colorado State Medical Society I presented a plan which, for us, seems much better. In the west the hospital situation is different from that of the east. We have a hospital staff; but the work in the hospital is not limited to the staff. Any physician may take his patients into the hospital and do as he pleases. My proposal was that each of the hospitals in our cities appoint a representative, these representatives to form a body to be known as a sort of hospital clearing house association representing all the hospitals in the community. Among other duties of this body every one wishing to take patients to the hospital must make application to this clearing house association. He must present his credentials, tell with whom he has worked, what his work has been, and in a broad way what his qualifications are. On such application made to this board his practice in the hospitals must depend. In many communities that is a plan which would meet this difficulty.

DR. JOHN A. MCGLINN, Philadelphia: I want to emphasize Dr. Boldt's statement in reference to diagnosis, and to urge the necessity of teaching and training students to be diagnosticians rather than operators. I feel that clinics made up of major operations are useless. The students can see but little of the technic, yet it gives them confidence to attempt work for which they are not trained. The time could be much better devoted to practical work in diagnosis. While I do not minimize the necessity of speed in operations I feel that completeness is a far more important factor. Recently I operated on a patient with double pyosalpinx several weeks after a general surgeon had removed the appendix. Within the past year a colleague operated on a patient with ruptured tubal pregnancy ten days after a very able surgeon had removed the appendix. These two cases are sufficient I think to prove the necessity of sacrificing speed to thoroughness in our work. The matter of anesthesia is important. I do not believe that it is advisable to allow the resident physician or an untrained man to give an anesthetic. I have always looked on the giving of an anesthetic as important as the operation itself. For this reason I have always employed a trained anesthetist. With reference to asepsis, I feel that the fewer assistants one has the better will be his results in an aseptic field. I use but one assistant for all operations and he has very little to do. He is simply used as an extra pair of hands to hold some instrument such as a retractor. One can train himself to work rapidly with few assistants, depending on himself for almost everything.

DR. F. F. SIMPSON, Pittsburg, Pa.: My object in bringing this subject before the Section was to get just what we have had, a definite expression of opinion by operators. Relative to some of the factors concerned in the reduction of mortality I would say that the synopsis that I have read is merely an abstract of my paper which will be published in full and a good many of the points brought out by the discussion have been more fully dealt with than the abstract indicates.

In regard to the reduction of mortality as related to the anesthetic, the opinion I wished to convey was that a study of the deaths during the last four or five years would show that probably one-third of the deaths could be attributed directly to the anesthetic, that is, to the effect of the anesthesia in disturbing metabolism, and its influence on the kidneys and on the liver. The more fully we study the subject of acetone bodies and the effects of metabolic disturbance the more do I believe that the anesthetic and its effect on metabolism will probably be found to be the cause of a high percentage of the deaths that actually occur.

VACCINE AND SERUM THERAPY IN CHILDREN*

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Vaccine therapy for prevention or cure of infection has for its object the production of an active immunity to the specific bacteria concerned, while serum therapy produces a passive immunity only.

Immunity, which is resistance or lack of susceptibility to a given disease or micro-organism, may be natural or acquired. Artificial or acquired immunity may be the result of an attack of the disease itself or it may follow inoculation with living cultures of micro-organisms in sublethal doses or in an attenuated state, with dead cultures or with those products of the growth and metabolism of bacteria known as toxins. Immunity so acquired is active or direct, comparatively slow in appearance, and of comparatively long though variable duration. It is brought about by the development in the blood serum of substances antagonistic to the vital activity of the bacteria or to the toxins. Such substances are known as antibodies. The serum of an animal which has been actively immunized and which is rich in antibodies may be inoculated into another animal for the purpose of combating infection. The immunity thus produced in the second animal is indirect or passive and of comparatively short duration.

The antibodies are of several kinds: agglutinins, opsonins, precipitins and lysins. They are formed by the tissue cells under the stimulus of the infecting bacteria, at first locally, then generally, and are present in the serum and to a lesser extent in the other body fluids. They manifest themselves in certain definite ways demonstrable and measurable by laboratory methods: agglutination reaction, opsonic index, bactericidal reaction, and the complement deviation test. Clinically their increase is accompanied by amelioration of the symptoms of infection. The aim of both vaccine and serum therapy then is to aid the production of antibodies in order to effect a destruction of the invading bacteria and the neutralization of their toxins. Metchnikoff asserted that the destruction of micro-organisms was brought about by their ingestion by phagocytes, especially [illegible] leucocytes. Denys and Leclef have pro[illegible] substance in the blood serum which prepares the bacteria for phagocytosis. This sensitizing substance was named "opsonin" by Wright and Douglas, who elaborated methods for its study in the laboratory and for its practical application to the treatment of infections by means of vaccines made of suspensions of dead bacteria.

It has been found in general that the opsonins are below normal at the onset of an infection and during the height of the acute stage, and that, as improvement occurs, the amount of opsonin in the blood serum increases. The administration of dead cultures of the bacteria causing the infection stimulates the production of opsonins, as proved by improvement in the symptoms and rise in the opsonic index.

TECHNIC

In order to estimate the opsonic index it is necessary to prepare serum from the patient, serum from a normal person, leucocytes from a normal person, and a culture of the bacteria from the patient's lesion.

Serum is readily obtained by pricking the finger and catching the blood in a small curved glass tube, as recommended by Wright. The blood is allowed to clot in the tube, and the resulting clear serum is removed by means of a capillary pipette, which is then sealed at its narrow end. The test should be made as soon as possible after drawing the blood, preferably within twenty-four hours.

Leucocytes are obtained from ten drops of normal blood caught in a tube containing 10 c.c. of 1.5 per cent sodium citrate in normal salt solution. The mixture is centrifuged and the fluid carefully drawn off and replaced by normal salt solution in order to wash the blood cells free from serum. After centrifuging again the supernatant fluid is removed and the upper layer of white blood cells taken up into a capillary pipette, whose lower end is then sealed in the flame. This is known as the "leucocytic cream."

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The suspension of bacteria is made in normal salt solution from an agar culture not over twenty-four hours old. It must not be too thick and should be free from clumps.

Capillary pipettes of similar caliber having been selected, equal quantities of patient's serum, leucocytes, and bacteria are drawn up and thoroughly mixed in one, while normal serum, leucocytes and bacteria are drawn into another. A control, using normal salt solution instead of serum, should also be made. The pipettes are sealed below and incubated for fifteen minutes at 37 C. The mixture is then expelled on a glass slide, thoroughly mixed again, and spread on clean slides. After fixing in methyl alcohol and staining in methylene blue the slides are placed under the microscope and the number of bacteria contained within fifty leucocytes is counted. This gives the phagocytic index and the quotient of the patient's and the normal phagocytic indices equals the opsonic index of the patient. More satisfactory results have recently been obtained by making the tests with diluted serum, according to Neufeld. The opsonins in the normal blood serum used for control are found to disappear in a lower dilution than do the immune opsonins in the blood of the patient who has been immunized by the disease or by the administration of vaccines.

The vaccine is made by suspending agar-cultures less than twenty-four hours old in normal salt solution. Equal quantities of bacterial suspension and of blood from a normal person are drawn into a capillary pipette, mixed, and thinly spread on a slide. The red cells and the bacteria are then counted in a number of fields. Since the normal blood contains 5,000,000 red cells to the cubic millimeter, the number of bacteria in proportion to the red cells can be estimated per cubic millimeter, and the actual count per cubic centimeter readily calculated. The tube containing the bacterial suspension is sealed and heated for two hours at 60 F. Control cultures are then made to test the sterility of the undiluted suspension. This having been properly accomplished, the vaccine is diluted in bottles of sterile normal salt solution, sealed with a rubber cap and paraffin, according to the dose desired per cubic centimeter. Thus, if the actual count showed that 5,000,000,000 bacteria were present in 1 c.c., diluting the vaccine fifty times by adding 1 c.c. of undiluted vaccine to 49 c.c. of sterile salt solution, would make a vaccine containing 100,000,000 bacteria in 1 c.c. Injections of 1 c.c. or less are made into the shoulder, back or thigh under strictest aseptic precautions.

Diphtheritic serum and the Flexner serum are both well known and require no comment.

RESULTS IN VARIOUS INFECTIONS

Staphylococcus Infections.—It is in these cases that the vaccine treatment has given the best results. While it is always wise to use a vaccine prepared from the patient's own strain of staphylococcus, it is not absolutely essential that this be done. Any stock vaccine which has given good results in a similar case may be used, provided that it has been proved by a culture made from the pus of the patient's lesion that staphylococci are the causative factors. It is essential also to know whether the *Staphylococcus aureus* or *albus* be present, in order that the appropriate vaccine may be employed. The dose in infants under one year should vary from 7,000,000 to 15,000,000 of dead cocci, and in infants between one and two years 15,000,000 to 20,000,000 may be given. In children over three years of age 20,000,000 to 50,000,000 may be used. The inoculations are repeated on the sixth to the tenth day if necessary. When the opsonic index is estimated throughout the vaccine treatment of such a case it is observed that a slight fall in the index follows the injection and that it may be accompanied clinically by a slight feeling of malaise, but no rise of temperature should occur. This constitutes Wright's negative phase of the reaction of immunity, and is followed in one to several hours by a rise in the index and improvement in the clinical symptoms. As soon as the opsonic index begins to fall below the normal on the fifth to the tenth day another injection is indicated. As a matter of fact, the test for the opsonic index has been found to be too uncertain to make it practical and worth while to follow systematically, the clinical symptoms being sufficient indication of the value of the vaccines. Too rapid or too large dosage must be avoided, because there is danger of exhausting the responding power of the human organism by overstimulation. The temperature should be taken before the vaccine is injected, and every three hours during the following twenty-four.

Furunculosis: In young infants this has proved readily amenable to treatment by staphylococcus vaccines. Improvement is shown by a much more rapid healing of the furuncles already incised and by the non-appearance of new ones. After the second inoculation improvement is the rule. The amount of pus is lessened and fewer dressings are required in cases so treated. No bad effects from the injections have been noted. It is best to begin with a small dose and increase if necessary.

Acne: Excellent results have been obtained by some observers; others report negative results. Larger doses are usually necessary.

Otitis media of staphylococcus origin: In this disease vaccines are reported, evidently by enthusiasts, as having proved of value, as also in suppuration in the antrum, in styes, in osteomyelitis, and in empyema. It is asserted that in the latter disease operation may, in rare and favorable cases, be obviated by the vaccine injections. After operation the vaccine is said to be of service in aiding the more rapid disappearance of pus from the pleural cavity and hastening the healing of the wound.

Any local suppuration due to staphylococci is benefited rapidly by vaccine administration. In general septicemia the results have been encouraging (Wright).

Streptococcus Infections.—In all cases of streptococcus inflammations the results of vaccine therapy have been far less brilliant than in staphylococcus cases, but still encouraging enough to warrant their further use. It seems to be essential also, far more than in the staphylococcus injections, that the vaccine be prepared from the strain of streptococcus isolated from the patient. The dose is about one-third that of the staphylococcus, 2,000,000 to 3,500,000 in babies under one year of age, 5,000,000 to 7,000,000 between one and two years, 10,000,000 to 30,000,000 in older children.

A boy, two months of age, developed an abscess on the chin. This healed after incision, but was rapidly followed by a suppurative epiphysitis and periostitis of the right tibia and of the sternoclavicular articulation on the left side, together with two areas of subperiosteal involvement of the occipital bone. The right tibia separated from the remainder of the limb at the epiphysis and was removed, a new bone forming in its place. The bone abscesses healed and others continued to form at intervals during the next ten months. It was decided to employ vaccine made from the pus to control the infection. The infecting bacteria were found to be the streptococci. The vaccine was made by Dr. Hastings and seven injections were given of 9,000,000 to 20,000,000 bacteria of four days apart, 90,000,000 in all.

No improvement whatever was made on the infection. The abscesses continued to form and new bone areas became involved under the treatment.

I am sure that in this case the vaccine was used in too small dosage.

Erysipelas: In erysipelas Shorer finds that the course of the disease is apparently shortened by the inoculation of dead streptococci, but that neither migration nor recurrence seems to be prevented.

Scarlet Fever: In scarlet fever the opsonic index to streptococci has been studied by Tunnicliff, who finds that it is below the normal at the onset of the disease, but rises when the acute symptoms subside. As local streptococcus complications appear the index falls once more. Favorable results following the injections of dead streptococci in cases of scarlet fever have not thus far been reported. On the other hand, in local streptococcus inflammations—adenitis, otitis media, and osteomyelitis—the treatment has given most encouraging results.

Gonococcus.—In vulvovaginitis due to the gonococcus in young infants under one year of age, the injections of dead gonococci have had no effect in shortening the course of the disease, in lessening the amount of discharge nor in causing the cocci to disappear from the vagina. In older children Hamilton and Cooke have found that the effect of the dead gonococcus injections is more marked in chronic than in acute cases, the disease being very decidedly shortened in its course. The later stages of the acute cases were also shortened, while no result was noted in the first weeks of the attack. Hamilton and Cooke observed no advantage from the use of a vaccine made from the patient's own organism. The initial dose of 5,000,000 was gradually increased to 40,000,000 or 50,000,000, according to the needs of the case. Injections at eight-day or nine-day intervals proved best.

Pneumococcus.—The few cases of pneumonia in which dead pneumococci have been injected showed no marked advantages over untreated cases. In empyema of pneumococcus origin healing has been hastened by inoculations of dead pneumococci (Ross).

Meningococcus.—In cerebrospinal meningitis, due to the meningococcus of Weichselbaum, vaccine therapy has been tried, but it has become superfluous in view of the brilliant results obtained by means of the antimeningococcus serum of Flexner and Jobling.

Bacillus Coli Communis.—Inoculations of dead colon bacilli in doses of 10,000,000 to 50,000,000 are reported to have given excellent results in cases of cystitis due to that micro-organism. The symptoms subside rapidly and the bacilli disappear from the urine in a comparatively short time.

Typhoid Bacillus.—Injections of dead typhoid bacilli have been employed as a prophylactic measure in the English army with fair results. As a curative therapy in children they have not, thus far, been used.

Pseudodiphtheria Bacillus.—In otitis media due to this organism Dr. Tunnicliff obtained apparent benefit in some cases by injecting the dead bacilli. The attack of otitis was postscarlatinal and acute.

Tubercle Bacillus.—Local tuberculous lesions have been treated by injections of tuberculin in very small doses with good effect. This is true of chronic local tuberculosis without constitutional symptoms, especially in bone, joint, gland, skin and eye affections. In pulmonary tuberculosis of a chronic type, running a nearly apyretic course, tuberculin is also of value. In all acute tuberculous lesions with marked fever and general symptoms tuberculin therapy has proved useless and it may be attended by grave danger. The dose of crude tuberculin administered for purposes of immunization in a chronic tuberculous lesion should be very small, 1/5000 of a milligram, gradually increased to 1/2000, 1/1000 or more. The inoculations should be repeated not oftener than once in ten days, at first, and the temperature carefully measured every two hours. If a rise occurs the dose has been too large, and must be reduced at the next injection. In selected cases of bone and joint disease and also in adenitis, good results have followed six or eight months of continued treatment, the dose being gradually increased in amount and the intervals shortened to three days. Wright maintains that the opsonic index is an essential guide to the regulation of the dosage. Other observers are satisfied that the clinical reaction is a sufficiently accurate guide. The opsonic index to the tubercle bacillus is low in cases of tuberculosis, unless it fluctuates, owing to autoinoculation from an active lesion. It is the office of the treatment to raise the index permanently.

In an unpublished paper Dr. Raymond Hoobler of New York presents nine cases of different diseases in children treated with vaccines. Dr. Hoobler's work in many respects shows better results than hitherto published. Very large doses of vaccine were used at comparatively frequent intervals. Dr. Hoobler's paper will be published in the August number of the *Archives of Pediatrics.*

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ABSTRACT OF DISCUSSION

DR. H. I. BOWDITCH, Boston: We ought to regret that Dr. Kerley's paper did not come earlier. I feel very strongly on the subject of the treatment with vaccines. I have had little personal experience, but in the clinics in Boston it is being used widely. In the Children's Hospital it is used in much smaller doses than Dr. Kerley mentions. There we are using Wright's method, from 1/50,000 of a milligram of "1.0" up to 1/20,000 of a milligram. This change in dose possibly is due to a different form of tuberculin that we use. It has been thought unwise to use it in local forms of tuberculosis. In glandular tuberculosis, so far as I have seen it used, it has given excellent results. The length of time required for the treatment is not determined. In six months one may hope to have some effect, but how much longer it must be employed to keep the process under control I do not know. Another point we are divided on is where surgical intervention comes in. Large glands which soften must be opened, but whether they should be curetted out and when the proper time for tuberculin arises, is not a settled question. Emptying the abscess with Wright's trocar seems to me the best method. The colon vaccine has been employed in pyelitis with varying success. Other vaccines, e. g., the staphylococcus, are not employed so often as they should be.

DR. J. P. SEDGWICK, Minneapolis: In my hospital service a few cases of typhoid were treated by vaccine therapy, and the results were so remarkable in one case that I intend to try it again this summer. There was a drop in the temperature curve, and I should like to know whether or not there is any connection between the result obtained and the treatment.

Dr. W. J. Butler, Chicago: Dr. Kerley's paper presents additional evidence of the advantages to be derived from vaccine and serum therapy in various infections. Staphylococcus and gonococcus infections have proved, in children, particularly amenable to vaccine therapy. I believe that I and my assistant, Dr. Long, were the first to demonstrate this for gonorrheal vulvovaginitis. While, in general, smaller doses of vaccine are employed in children, they tolerate large doses of the above vaccines without any marked general reaction. A local reaction at the site of injection, consisting of a slight induration that is somewhat tender, is usually observed, but is of no consequence. It is important, however, in an individual case to select a proper dose, and while there are in all probability other protective substances than opsonins produced following inoculations, an estimation of the latter forms the best guide at present in determining such dosage. There is probably no vaccine used in which an adherence to the latter is more important than in the use of tuberculin. I think that we owe a debt of gratitude to Dr. Flexner for placing in the hands of physicians throughout the country a specific serum for the treatment of epidemic cerebrospinal meningitis. I have used it in four cases, all of which, however, came under observation late in the disease, at a time when little could be hoped for from serotherapy, and all terminated fatally. In the experience of others, brilliant results have followed its early employment. I am not altogether convinced, however, that we have arrived at final conclusions as to how frequently it should be employed in a given case, especially in fulminating cases. The majority of statements on this point would seem to come from the clinical side and naturally are empirical.

A fuller knowledge of the active substances contained in the serum, the period of time in which such substances are exhausted when in contact with infected tissues, etc., might give us closer information of the frequency with which it should be used. A serum can possess, for instance, a definite antibody content, which, when brought in contact with the appropriate antigen, will be rapidly neutralized, become inactive, and consequently could not be of any further service. Kolle and Wassermann investigated the complement-binding amboceptor of antimeningococcus serum, which was, of course, first produced by Joachmann of Breslau. Joachmann must be recognized as its discoverer, in the same manner that we accord Bierring the credit for diphtheria antitoxin.

Kolle and Wassermann concluded that it contained a complement-binding antibody. It undoubtedly contains other protective substances.

MASSAGE IN GENERAL MEDICINE

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Massage is a systematic manipulation of the body for definite therapeutic ends. This manipulation depends for its success on the precise performance of certain clearly described and well-understood movements of the hands in the process. While these movements are in a general way always of the same sort, each of them is capable of modification to meet varying indications as one would vary the dose, the frequency of administration, or the strength of a drug. It is absolutely necessary for the operator to keep in mind when applying the treatment the particular end to be sought in the individual patient. The skilful manipulator scarcely ever rubs two persons alike.

The several movements used consist of various applications of rubbing, kneading, stretching and pinching of the muscles and other tissues.

You will see that this simple definition of what massage is tells by implication what massage is not. It is not magnetism, or personal electricity, or magic, or bone-setting, nor is it a panacea or cure-all for disease. It is applied, not by a flow of mysterious influence from one person to another, but by two hands directed by intelligence and applied with knowledge. It is a method of treatment aiming to produce certain definite ends, which should be prescribed by a physician as a medicine is; in fact, it is a medicine in any wide sense of that word which would not limit it to indicate something which comes out of a bottle in drops or teaspoonsful. There are indications for its use exactly as there are indications for the prescription of a laxative or a heart tonic. To get the best results the physician should know why he is ordering it, and the operator should know, too. The main thing, the thing to be always held in mind in prescribing or applying any remedy, is that we are seeking to produce certain particular effects in the individual case under treatment.

What effects can we produce with massage? Now, in the main, the mechanical results of massage are those of active exercise. We can by its direct influence alter the circulation of the blood and lymph as may be desirable, either slowing or hurrying their currents; can improve the tone and in some degree the bulk of muscles; affect the whole digestive system according to the method of application so that the activity of the peristaltic movements may be increased, the secretions aided, or, if need be, quieting and soothing effects produced. The superficial nerves can be directly reached, and the deeper-lying nerves and excretory organs also, somewhat less immediately. The chief difference between massage and active exercise is that we can not expect by any passive manipulation to add greatly to the quantity or power of the muscular system, while with active exercise properly directed this is almost indefinitely possible. The second and more important difference is that massage makes no demand on the voluntary nervous system, so that patients in whom for any reason it is desirable to avoid drawing on weak or irritable nervous centers may thus be exercised, in this way conserving nervous energy and economizing the expenditure of will-power.

The greatest value of the treatment is in diseases which are due to altered metabolism, and in which the powers of digestion, absorption or assimilation are at fault. It is this effect on nutritive processes which has made massage so successful in the treatment of certain nervous disorders, especially those bugbears of the general practitioner, hysteria and neurasthenia, in their infinite multiplicity of forms and symptoms. These troubles are caused in large part, so far as our present knowledge can tell us, by defects of assimilation or other disturbances of nutrition, and, as I have said, nutrition may be profoundly influenced by regular and continued massage. It is, indeed, an integral part of rest treatment, the only unalterable requirement. Without it rest treatment is scarcely possible, and we should be in constant difficulties in attempting the use of rest in this form were it not for the possibility of improving the appetite, the digestion, and the general metabolic conditions by means of massage.

The special forms of massage, light superficial rubbing, surface stimulation by vibratory movements and tapping, slightly deeper friction by finger-tip and open-hand pressure, and, more important, the manipulation by deep kneading, all have their influences, but the combination of these four basic movements, which make up what we call "general massage," have more effect than any of the individual movements used separately. This is obvious clinically from what one sees in the patient, and subjectively is to be learned from the patient's feelings, while physiologic experiment has proved very satisfactorily in a measured and precise fashion the immense influence of this "combined manipulation" on circulation and secretion.

Some of the movements and systems of massage in use are, in my opinion, either useless or deleterious. Certain operators perform a number of fantastic and airy movements which may influence the surrounding atmosphere, but can not much affect the patient. Indeed, these light tappings and slappings are excessively irritating to some sensitive and nervous patients and should, therefore, be restricted to those cases in which an effect of stimulation of a passing kind is desirable. The vital, useful, alterative movements are the deep ones.

When a patient is rubbed for an hour, which is about the average time that should be taken for the careful manipulation of an ordinary sized person in ordinary flesh, certain very obvious effects are produced. In the first place (if we take a patient, let us say, at the end of a week's manipulation when the early strangeness and possible disagreeableness of being handled and pulled about has passed), in a successful case we shall hear from the patient that the operation leaves him with a slight and not at all disagreeable sense of lassitude, scarcely to be called fatigue, usually with a moderate degree of drowsiness and a sense of pleasant well-being. If, like most neurasthenic subjects, he has "that tired feeling," this should be lessened by each treatment, a gentle warmth should be felt over the whole surface, a distinct sense of stimulation of the circulation, an increase of appetite, an improvement of digestion, both gastric and intestinal, and sounder and longer sleep. Physiologically speaking, there is a temporary slight increase of temperature in almost all cases, from half a degree to a degree Fahrenheit, usually. If the manipulation has been a slow and deep one, not unduly prolonged, the pulse will be slower and stronger afterward. Too long-continued manipulation, while at first followed by this improvement in the force and slowing of the speed of the pulse, may show a reaction of a less favorable kind afterward.

Superficial rubbing, especially if both superficial and rapid, will usually result in the pulse becoming quicker and weaker, so that if patients say that they can not stand massage because it leaves them irritated and with a discomforting sense of rapid heart action afterward, some inquiry should be made as to the method in which treatment is being carried out. Judging by my own very large experience, there must be very few patients who can not be rubbed.

There is an absolute increase, susceptible of measurement, in the flow of blood through any part. There is an enormous addition to the actual number of red blood cells in circulation, as I have proved by blood counts before and after treatment. It is probable that this is the result of the deep manipulation bringing into the circulation from the various tissues producing or storing up red blood a number of partially developed or transition cells and later to an actual stimulation of production of red cells. There is also a distinct addition to the quantity of intestinal and lymphatic secretion and the improved movement of the blood and lymphatic currents and nutrition in every direction throughout the system. One marked effect produced by this change in circulation is an increase in the amount of the urinary secretion, which is not only greater in quantity, but contains more than the normal solids during the hours succeeding treatment. The motor, sensory and trophic nerves are all stimulated in their several functions, the most direct evidence of which is the general improved vasomotor control.

One need not describe the effects on pathologic processes, as they may readily be inferred from these statements of the physiologic effects.

As concrete examples of the kind of cases in which massage will prove valuable, I briefly cite a few instances:

In simple anemia an increase of red blood cells can be demonstrated, amounting to from 15 to 50 per cent. This effect, at first temporary, lasts longer and longer as the massage is continued and with the establishment of improved nutrition becomes permanent.

In a case of extreme anemia in which the red cells were only 2,600,000 and the hemoglobin 56 per cent., the first massage increased the amount of the red cells to 4,600,000, without any increase in the hemoglobin. This first effect of manipulation was not maintained, the count in a few days dropping to 3,200,000 after massage.

In a case of chronic lead-poisoning with 4,000,000 corpuscles and only 30 per cent. of hemoglobin, the red cells were temporarily increased by massage to over 6,000,000. It could, of course, not be expected that so great an increase would be maintained and it was, indeed, abnormal, but this first effect greatly increased the comfort of the patient, and, although the increase was not kept up to this height, it did go on steadily. In a case of anemia so severe as to resemble the pernicious variety, but in which ultimate recovery ensued, the red cells went from 1,500,000, the percentage of hemoglobin being 18, to 1,650,000, with the first treatment. In a week the count was over 3,000,000 before massage and the percentage of hemoglobin was doubled, and after massage the cells rose temporarily to over 5,000,000.

Whether such results as these can be attained will depend altogether on the character and duration of the massage applications. Light rubbing, slapping and tickling will not produce the desired effects, but deep slow manipulations for fifty or sixty minutes will, and if these results do not follow massage it may be at once concluded that the massage is either not the right sort or not rightly used.

In chronic constipation, with careful, continued and frequently repeated massage of the intestines, the accumulations of the bowel may be emptied, the weakened intestinal muscles stimulated, the secretions—nearly always deficient in this disease—brought back in normal quantity, and, when patients have begun to improve, a careful and punctual habit of defecation may be inculcated and a permanent cure thus result. Before attempting to use massage for chronic constipation it is necessary to empty the bowels thoroughly by high enemas, lest there should be some retention of feces in the colon, which sometimes happens, even when the bowels are being moved reasonably well daily by means of purgatives. If abdominal massage is applied while these matted masses are present in the bowel, inflammatory disturbances might result.

In nervous diseases, to take a common example, chorea will be treated more successfully, so far as duration is concerned, and much more satisfactorily, so far as the permanence of the results go, by a short time in bed with very slow, quiet, deep kneading of the muscles than by any combination of drugs yet evolved.

In another disease of unknown pathology, but with its effects chiefly perceived in the muscles, paralysis agitans, results are attained which enormously increase the ease and comfort of the patient; the ache resulting from the constant overuse of the flexor muscles can be relieved and a degree of relaxation brought about attainable in no other way, and in favorable cases something really approaching a cure may be expected. Training in relaxation, extension movements, slow, full and sweeping, are added after a short course of massage, and the characteristic gait and carriage may also be improved by proper exercises.

In sprains, to select another disorder of a very different sort for an example, no treatment is so successful as early and frequently repeated massage. Sprains of the knee, ankle, elbow or wrist, may thus be treated from the very first day of their course, and, indeed, the earlier the treatment can be begun the briefer will the time of disablement be and the more completely successful the result.

The results of peritonitis, however caused, are excessively difficult and unsatisfactory to handle; if adhesions form, the impairment of the efficiency of the intestines and other abdominal organs may be very great. In one striking example of this we had the advantage of ocular demonstration. The late Professor Goodell attempted operation to relieve what seemed to be adhesions in the intestine. He opened the abdomen and found the whole abdominal contents so matted in one mass by old inflammations that no surgical interference was possible at all. Dr. Goodell closed the wound and in due time returned the patient to me for general treatment. Persistent massage during six months relieved the difficulty to such an extent that a woman who before had not had a stool without mechanical assistance in some years recovered excellent functional activity of the intestines and remained well for a number of years afterward, when I lost sight of her.

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The real fact is that if massage were properly understood and properly appreciated as an invaluable medical aid the osteopaths would never had the success which has attended them. If there is any one thing certain from a study of their methods, it is that they have found out and made use of the immense value of massage and manipulation, and, as a result, are teaching, without perhaps intending to do so, the important lesson to the public of the value and necessity of bodily exercise, but that they do so in such a manner as to cause frequent damage and almost constant danger is another matter. The most serious accusation against them is that they claim to do impossible things, and in attempting them do dangerous things.

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Further observations, confirmed by clinical and laboratory data since publication of my papers on this and kindred topics in 1902, 1904 and 1906, serve only to establish more firmly the views then expressed. The question of intestinal autointoxication, toxemia and lithemia, has at last come to the front where it belongs, and has gained wide attention from the medical profession both in Europe and America, and the results and treatment of putrefaction and toxemia originating in the intestinal canal have become matters of great importance not only to the general practician, but to the otorhinologist. Unsatisfactory results obtained after months of surgical and local treatment of some diseases of the ear, nose and throat have stimulated a more careful search for reasons why permanent relief was so rarely obtained from usual accepted and time-honored methods of treatment.

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"Evidences from histology, comparative anatomy, experiments on animals and clinical observation show that the nose is the organ through which the current of air should pass in normal breathing; also that lowered vitality, accompanied by a variety of general symptoms, is often due to nasal obstruction." It is no less true that these conditions are caused by the systemic disturbance, a frequently overlooked factor.

For instance, there are more causes for deafness than (1) interference with the passage of sound to the terminal filaments of the auditory nerve, and (2) interference with the transmission of sound from the terminal filaments to the brain. We may have fatigue—a state of weakness, suspension of or inability to transmit its special stimulus or to interpret that stimulus correctly. As, in the eye, we may have an asthenopia or weakness of vision, so we may have a similar condition in the ear. We may have a functional disturbance due neither to internal or middle-ear disease. Occasionally we meet cases, the symptoms of which would indicate middle-ear disease; in another group the symptoms indicate disease of the internal ear, yet careful examination reveals that neither disease exists; hence we must look elsewhere for the cause. There is a middle class due to systemic disturbances. Since in the eye we may have diminished or obliteration of function from toxemia, why may we not for the same reason have a similar condition in the ear? That we do meet toxemia of the auditory apparatus I have frequently demonstrated. In this class of cases we find some disorder of the nervous, digestive, excretory or circulatory system which has intensified a comparatively trivial irregularity of the ear into troublesome deafness.

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Labyrinthine hyperemia is often caused by alcohol, overeating, gout, rheumatism and certain drugs, as quinin, ether and salicin. A large causative influence is also exerted in this condition by hyperplasia of the labyrinthine capsule and certain systemic conditions (i. e., lithemia and gout), due to a toxemia which I have demonstrated to be of intestinal origin.

In cases of interference with motion and fixation of the sound-conducting chain, if the real seat of the pathologic condition is the bony capsule of the labyrinth, what is the cause of this condition? Also if lithemia, gout and rheumatism may produce ankylosis or interference with functions of one part of the body, why not in another part?

Undoubtedly as the result of many years of disturbed function organic changes may take place in the intratympanic structures which are incapable of resolution, and many persons would escape the annoyance of tinnitus and humiliation of deafness, if preventive surgery had been used and proper living practiced.

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In several hundreds of cases of diseases of the nasal accessory sinuses, middle and internal ear in which surgical interference was not indicated, and in all in which it was indicated and operative procedure resorted to, I have found unmistakable and marked evidence of toxemia of intestinal origin as evidenced by excessive quantity of indican in the urine, and when the condition causing this was removed there was marked amelioration or entire relief of the disease.

I do not believe that every functional disease has a structural derangement to account for it. No mechanism is sufficient for function simply because it is a mechanism. Each must have its special power for successful operation, and the source of power is in the blood. That the blood is poisoned through absorption of toxic material from the intestinal canal more frequently than from any other source I think will not be questioned. Food and drugs, once in the circulation, select the nervous function which they specifically arrange or derange, and some functional changes produce organic changes due to possession of chemical affinities, alcohol producing structural changes in the kidney and sclerotic changes in nerve and liver tissue. Functional diseases are usually intermittent; a broken or destroyed nerve fiber stays broken. Gouty poisons must accumulate in the blood a long while before the attack of gout. There may be a sudden explosion of uremia, but the blood has been uremic for some time before. I have seen gastrointestinal disorders severe enough to destroy life, which yet left no evidence of inflammatory elements. The neurologists tell of severe cases of melancholia due to fecal accumulation. The general law of nervous organization is that a repeated excitation of the nerve center will, in time, anatomically modify that center. If this law be true in one instance, why not true in another? We know that contraction of the circulation, resulting in hyperemia or ischemia with venous stasis, is sometimes brought about by the condition known as lithemia. (This term was first used by the late Dr. J. M. DaCosta, who described it as American gout, analogous to the uric acid diathesis, there being, however, no uric acid present, the irritation being some other chemical substance, perhaps alkaline instead of acid.) Quinin and salicylates cause the tinnitus, probably, by producing hyperemia of the labyrinth, as they increase the blood tension until actual toxic effects are manifested, when the tension is reduced. I have frequently seen the same conditions, the result of imperfect nutrition or overnutrition and defective elimination. Toxins, owing to disturbed body chemistry, are manufactured daily in the intestinal canal and remain in the system; the result is a protest from the irritated nerves and poisoned cells, manifested in rheumatic pains, asthmatic attacks, vertigo, obscure neuroses of eye, ear, nose and throat, neuralgias and periodic headaches; all these being evidence of systemic poisoning. This poison I have almost invariably found to be indican in the urine.

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Greene M. Hammond, writing on neuritis from autointoxication, says that, while the presence of indican in the urine is significant of this condition, he does not consider indol alone a very toxic agent, but looks on skatol and butyric acid as much more powerful toxins.

Metchnikoff[1] concludes that in the putrefactive bacilli in our digestive canal we have a source of autointoxication against which the organization has to fight with all the means at its command. The intestinal putrefaction corresponds simply to the first appearance of putrefaction outside of the living organism.

Fermentation of carbohydrates occurs in the lower ileum and colon; putrefaction of proteids takes place in the large intestines. Putrefaction, except in the pathologic condition, never occurs above the iliocecal valve.

Herter found that administration of indol to healthy individuals caused frontal headaches, irritability, insomnia, and confusion; a long continuance of absorption of indol caused a strong reaction for indican in the urine sufficient to cause neurasthenic symptoms. Gases and other products of fermentation are mostly absorbed by the intestinal wall.

Ortiveiler and Muller say that the amount of indican in urine varies with the length of time the feces remain in the colon, with the activity of peristalsis, and with the site of putrefaction of proteins; when putrefaction extends up into the small intestine, urine indican is much increased.

Hammond's remarks as to the influence of diet are so important that I quote:

> It is commonly believed that proteid foods are the ones concerned in the formation of putrefactive toxins; that is in the main, true, but it is quite clear to me that all forms of food, when eaten in greater quantities than the digestive fluids can digest, are capable of forming putrefactive poisons, which are deleterious to the human organisms. I have, therefore, insisted that all my patients should eat small meals in which the proteid foods should form a very small proportion. To my mind it is not so much what the patient eats, as how he eats. I have found the best results follow when general food was given, but the quantity of food of any kind was limited *to a very small amount. Most people habitually eat, at least* once a day and frequently at all meals, not only much more food than they need, but much more than they can digest. In the latter case putrefactive decomposition naturally follows. This may be obviated by giving only as much food as can be digested, and it is even better to give, for a time at least, even less than this amount. When this plan was followed every day for a number of days, the putrefactive products in the urine were invariably decreased and in some cases entirely disappeared.

In this paper I have attempted to emphasize briefly, as suggested by the title, the importance of intestinal autointoxication as a factor in the causation of pathologic conditions of the ear, nose and throat. In a subsequent paper I shall mention somewhat in detail the specific manifestations of these pathologic conditions; the treatment employed and results obtained.

Forest Highlands for Sanatoriums.—The Committee of One Hundred on National Health suggests that some of the great lumber companies could allow some of their large tracts of forest lands situated high in the mountains to be used for tuberculosis sanatoriums. As a reciprocal arrangement it is suggested that the state could remit taxes on the lands which lumber companies lease for sanatorium purposes. The tenure would be temporary and under conditions agreeable to all concerned. A further suggestion is made that life-insurance companies could undertake the management and that railroads could aid greatly by making reduced rates at appropriate intervals for the transportation of tuberculosis sufferers.

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[1] Metchnikoff: Méd orient., 1909, p. 134.

Clinical Notes

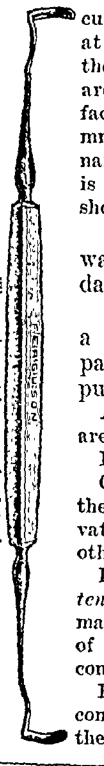
A NEW METHOD FOR DETACHING THE CATARACT IN ITS CAPSULE

G. C. SAVAGE, M.D.

NASHVILLE, TENN.

I wish to say a word—probably not the last word—on the extraction of cataract in its capsule. Of the Smith operation, which in recent years has attracted the attention of the world, all that need be said has been told by Greene[1] in The Journal. In the same issue Würdemann advocates the operation, but gives credit to Pagenstecher. Major Smith,[2] in The Journal of September 11, shows clearly that Pagenstecher himself makes no such claim, but, on the contrary, gives credit to Smith. Smith quotes Pagenstecher as calling Smith's "the best operation in the world; I will do nothing else."

While Greene was reading his paper I saw more clearly than ever the amount of trauma necessary in the Smith operation, and became more convinced that this particular operation could never become universal. He had not finished his paper until I had drawn, on the margin of my copy of the program, an instrument for detaching the cataract in its capsule. I later found that my first conception of this instrument was perfect. On my arrival in Philadelphia, from Atlantic City, I arranged for the making of a model. This I brought home with me for trial on pigs' eyes. It proved so satisfactory on these eyes, also on a human eye which had been enucleated, that I returned it to the manufacturer with the request that he make me three detachers just like the original model, differing only in the length of the curves. The following description will be more easily understood in the light of the accompanying illustration:



The cataract-in-capsule detacher.

> The instrument terminates at each end in a double curve, the one in line with the handle and the other at right angles to this line. The point of bending is the point of union of the two curves. The two curves are to have the same radius as has the anterior surface of the lens, and the curves are to be 5, 6 and 7 mm. long, for the reason that eyes vary in size. The name will be the "cataract-in-capsule detacher." It is a right- and left-handed instrument, as the cut shows.

The model was made on June 12, 1909, and was used on animal eyes for the first time two days later, June 14.

The means described above makes necessary a new method of operation—new in essential particulars. The following is the method to be pursued:

A. Patient, instruments, operator and assistant are to be thoroughly prepared.

B. Complete local anesthesia is to be used.

C. Lids are to be separated by a stop-speculum, or the upper lid held up by the assistant, with lid elevator, while the lower lid is pulled down by the other hand of the assistant.

D. The operator fixes the eyeball by *grasping the tendon of the internus;* then with the other hand he makes the corneal incision of the usual size (5/11 of the circumference), associating with it a good conjunctival flap.

E. If an iridectomy is to be done, the one hand continues to fix the globe, while with his other hand the operator seizes the iris with iris forceps and gently draws it out through the incision just far enough to enable an assistant to make a vertical snip of the iris with iris scissors, close to the tip of the forceps. The ideal operation, however, is without iridectomy.

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[1] Greene, D. W.: Experience in Expression of Cataract in Capsule by Smith Method, The Journal A. M. A., Sept. 4, 1909, liii, 777.

[2] Smith, Henry: The Smith Operation for Cataract, The Journal A. M. A., Sept. 11, 1909, liii, 882.

F. The iridectomy having been done—or if the iridectomy is not to be done—the operator, still continuing to fix the eye with his grasp of the tendon, takes in his other hand the cataract-in-capsule detacher and, passing it into the anterior chamber, he directs the free point of the horizontal curve between the iris and anterior capsule, pressing it gently downward until both the horizontal and vertical curves are behind the iris, or between the iris and the cataract; and now the detacher is to be so held that the horizontal curve shall rest on the lens below, but parallel with, the horizontal meridian of the lens, while the vertical curve shall rest on the lens to the outer side of, but parallel with, the vertical meridian of the lens, half way between the center and the margin. This is the primary position of the detacher.

On two movements of the detacher depends the success of the operation:

1. The vertical curve is made to press against the lens in such a way as to rotate it on its vertical axis, causing the outer margin of the cataract to move backward while the inner margin is made to advance to the same extent. The effect of this movement of the detacher is to tear loose the ligament laterally, the tear including much more than two quadrants, leaving untorn, probably, only a few fibers directly above and below. Now the instrument must be returned to the primary position, thus replacing the cataract in its normal position.

2. The horizontal curve of the detacher must now be made to rotate the cataract on its transverse axis by advancing the free end of the instrument while making *gentle* pressure against the cataract below its center. The effect is to make the lower margin of the cataract recede while the upper margin advances accordingly. This motion tears loose the few remaining fibers of the ligament, above and below, making easy the next step.

3. The cataract in its capsule having been torn loose by the two movements of the detacher outlined in 1 and 2 above, this instrument should be withdrawn from the eye, and the cataract in the capsule should be delivered by external pressure, in the old-time way, often without any counter-pressure, the globe still being held by means of the tendon-grasp. Occasionally light external pressure will show that some of the ligaments remain intact, as in one of my eight cases. In such a case the fixation forceps should be laid aside that the left hand may make counter-pressure with the shank of the cystotome until the cataract in the capsule presents in the corneal incision. At this moment the counter-pressure should cease and the presenting cataract should be transfixed from behind with the point of the cystotome, by means of which the cataract may be lifted out, thus minimizing the amount of further external pressure on the lower part of the cornea.

By this method of continued fixation, detaching and delivering, the operation is simple, easy and safe, and the trauma is very slight. Subsequent irritation was practically nil in all of my eight cases.

This operation has been done twice by Dr. M. M. Cullum, one of my local confreres. After his first operation he turned to me and said: "Why, this operation is as easy as the old-time operation." After his second operation he telephoned me as follows: "Your operation beats the Smith operation a long way."

The after-treatment is the simplest, varying from the usual in that I leave the eye open behind a gauze flap after the second day.

What is new in this operation can be recognized easily by the reader, but I will summarize the points: (1) Method of fixation; (2) the detacher and the method of using it; (3) the transfixing of the lens from behind in cases requiring much external pressure.

The free use of pigs' eyes will give courage and confidence to the one about to adopt my operation.

137 Eighth Avenue North.

COMPLEMENT FIXATION WITH LECITHIN AS ANTIGEN IN PELLAGRA

A PRELIMINARY NOTE

C. C. BASS, M.D.
NEW ORLEANS

The original Wassermann reaction and its many modifications, though at first thought to be specific for syphilis, has been found in a number of other diseases that are all known, or thought, to be of protozoan origin. The reaction seems, then, to be limited to protozoan diseases with the exception of a few cases of advanced tuberculosis and leprosy.

The generally accepted theory of the etiology of pellagra the world over is that it is poisoning from eating improperly cured or diseased corn products. Lombroso extracted from spoiled corn an oil and other extractives with which he produced experimentally in animals a disease very similar to, or identical with, pellagra. In Italy, where there is much pellagra, the authorities have reduced the amount of the disease to less than one-fourth of what it was when the regulation against the use of diseased corn was begun. The work has been based on the maize theory. It should be remarked incidentally, however, that many of the cases have been isolated by providing a number of hospitals for the treatment of pellagra.

There are a few students, however, among whom may be mentioned Sir Patrick Manson, who dispute the maize theory, and believe the disease to be due to protozoa and cite as evidence the similarity of course, symptoms and pathology of the disease to syphilis and sleeping sickness.

In the research laboratory of Tulane Medical College we have so far tested the serum in six cases and all gave positive reactions. The technic followed was the original Wassermann, except that lecithin was used for antigen instead of syphilitic liver extract. The hemolytic system used was sheep corpuscles; serum of sensitized rabbits inactivated at 56° C for 30 minutes; and guinea-pig serum for complement. The patient's serum was inactivated before being tested. All six cases gave strong positive reactions. All the patients gave negative histories for syphilis; three were the mothers and one was the father of healthy children. One of the tests was made on blood taken twenty-four hours after death and is, therefore, not very reliable. One patient denied eating corn meal, though the diagnosis of pellagra appeared fully justified.

I fully recognize that these few positive Wassermann reactions in pellagra may be merely a coincidence and do not justify any conclusions, but if the observation is confirmed in a larger series it would tend to strengthen the idea that the disease may be of protozoan origin. It might also be of service in the diagnosis of the very many early or mild cases.

Still further, it would add another disease to the list for consideration in interpreting a positive Wassermann reaction.

741 Carondelet Street.

Mental and Physical Education.—The whole conception of the purpose and curriculum of a college education needs revision and into it must come a better relation of the physical with the mental life of the undergraduates. This characteristic feature of our educational system should furnish quiet years for thought and visions but it should, and that was the purpose of many of those who endowed them, make distinctly for efficient citizenship.—P. C. Phillips, in *Hygiene and Physical Education.*

COLIC IN AN INFANT DUE TO ADENOID HYPERTROPHY

C. C. WALLIN, M.D.
LEWISTOWN, MONT.

On reading Dr. Freeman's article entitled "Adenoid Hypertrophy During the First Year of Life and Its Treatment," I am constrained to report the following case. I well recall Dr. Morse's paper of two years ago, but neither in it nor in any other discussions of conditions induced by the hypertrophied adenoid have I seen attention called to the symptoms herein reported.

The case is that of a child about six weeks old, perfectly healthy and nursed by its mother, who was also in good condition. I was called one evening to see the infant—which I had delivered—on account of an attack of "wind colic." An enema brought relief, but the condition recurred the next day. The child was plainly a mouth breather, and according to the mother had difficulty in nursing as well as frequent attacks of colic. Examination with the little finger revealed a nasopharynx pretty well filled with adenoid growth. The child was placed on a small table, the father steadied the head while with an ordinary tongue depressor, the lower jaw was depressed and the smallest Beckman curette inserted. It was but the work of a moment to clean out the growth, and from that time on the child has had no colic.

In this instance the colic was due simply to the fact that, in its efforts to nurse, the child swallowed quantities of air. This is shown by the utter absence of any other symptoms of digestive disturbance and by the result of the operation.

As to the prevalence of hypertrophied adenoids in infants, I am convinced that it is far greater than usually recognized. An infant with normal air passages will keep its mouth closed, and "snuffles" and "catarrh" are more often due to adenoid hypertrophy than to syphilis or to any other condition. Neither "snuffles" nor "catarrh" invariably accompany even a decided overgrowth of the adenoid.

I am further convinced that it is rarely necessary to administer an anesthetic for the removal of adenoids in a child under a year old; indeed, I believe such a course is rarely justifiable.

Reconstruction of Bile Ducts.—Dr. Alfred H. Movius, Jamestown, N. D., writes that Dr. Arthur G. Sullivan's article on this subject in The Journal, Sept. 4, 1909, p. 774, suggests to him that a recent case, in which he did a partial reconstruction of the common duct, might be worth reporting. It is as follows: Patient: A Norwegian woman, aged 82, who had suffered with gall-stone colic for twenty years, came under observation in June, 1908. The skin over the entire body was decidedly jaundiced; more or less jaundice had been present for the past three months. The stools were clay-colored; the urine loaded with bile. A diagnosis of cholelithiasis with stone in common duct was made. *Operation:* The usual incision was made in the right hypochondrium. The gall-bladder was found to be atrophied and full of stones. After loosening the extensive adhesions, the gall-bladder was removed. The common duct was next opened and the stone removed. The lumen of the common duct, below the location of the stone, was very much contracted. Fearing occlusion of this portion of the duct and consequent poor drainage, Dr. Movius inserted a piece of rubber tubing 3/16 inch in diameter. The tube extended from ¼ inch above the incision in the common duct to ⅓ inch into the duodenum. The duct was then sutured with No. 1 chromicized catgut, one stitch passing through the rubber tube to hold it in place. The abdominal wound was closed in the usual way. Postoperative History: Drainage was left in for four days, after which time it was removed and wound allowed to heal. Healing was complete in eight days. The bowels showed active bile drainage within the first thirty-six hours and the urine contained very little bile. The rubber tube passed on the fourteenth day following operation. The patient left the hospital at the end of the fourth week.

Therapeutics

CARE OF THE MOUTH

Dr. S. Blair Luckie, of Chester, Pa. (*Dietetic and Hygienic Gazette*, June, 1909), says so many pertinent things in regard to the proper care of the mouth preventing disease that it is well to review his article. The mouth seems to be splendidly arranged for the propagation and even protection of bacteria. There are cavities, caverns, and crypts, not easily cleansed, which are moist and warm, and more or less food is deposited near or in these spaces, which forms suitable pabulum for the growth of bacteria. A disturbance of the general health may change the mucous and salivary secretions and may impair the health of the mucous membrane of the mouth. Digestive disturbances not only coat the tongue, but interfere with the health of the rest of the mouth. Decayed teeth or painful roots of the teeth cause the patient to avoid that side of the mouth in masticating. One or all of these conditions may be present and allow the growth and propagation of pathologic bacteria in the mouth. In fact, there is hardly a general disturbance that does not interfere with the normal health of the mouth, which means good teeth; clean, pink mucous membranes; normal saliva; good digestion; and sweet breath. When one remembers how generally the breath of an individual is not sweet; how generally the tongue is not clean; how generally there is some tooth or teeth abnormality in a patient; and how incompletely most patients cleanse their mouths and teeth, we should not be astonished to learn that not only are harmless bacteria more or less constantly present in the mouth, but that pathologic bacteria occurring in the mouth are the cause of many serious diseases.

Unfortunately, an individual does not always realize that his mouth is dirty. Before he notices it there has to be considerable inflammation, considerable disturbance of secretions, and a bad taste in his mouth. Luckie quotes Miller as stating that one unclean mouth harbors 1,140,000,000 bacteria that may be cultivated, many of which are pathogenic. It has been shown that some of these pathogenic bacteria may cause not only intestinal indigestion and putrefaction, but may even be a source of pernicious anemia. A healthy gastric juice kills most of these germs that are swallowed, but anything that interferes with the normal amount of hydrochloric acid in the stomach may allow these germs to be carried into the intestines unharmed, where they can continue to grow. Besides the septic bacteria, the pneumococcus, the bacillus of diphtheria, and the bacillus of tuberculosis are sometimes found in the mouth.

The frequency of alveolitis and gingivitis after forty, even in otherwise normal individuals, shows neglect in the care of the mouth.

These bacteria, harmless or harmful, which are present in the mouth, may be inhaled, may be swallowed, may be chewed into the food, may be sprayed during sneezing or coughing, and may be offered gratuitously to friends who are kissed.

The object of this article is to cause the physician, whenever he is consulted by any patient, to examine the mouth carefully, and to give careful advice for daily continued cleanliness; the character of the solutions he deems advisable to order, depending on the condition in which he finds the mouth. He should also urge the patient to consult his dentist immediately if there is any cleaning or filling of the teeth needed. He should also instruct mothers in the care of their children's mouths.

Medical inspectors and teachers in schools should not only see that the eyes and ears of the children are normal, and that acute infection is not in evidence, but should also examine the mouths and teeth of the children.

The normal bilateral chewing of food of normal toughness is one of Nature's best methods of cleansing all parts of the teeth, developing the muscles, and causing normal mucous and salivary secretions. The softer the food the less all these normal functions are in evidence. It is a positive necessity that artificial means should be used to keep the mouth and teeth clean. Morning and night at least the teeth should be scrubbed with a good tooth brush carrying a proper combination of soapy and powdery cleanser. Every surface of each tooth should be brushed, and Luckie says that cheeks and gums should also be carefully brushed, and the mouth then properly flushed with some alkaline cleansing water, and there is none better than the Liquor Antisepticus Alkalinus (N. F.), diluted with one or two parts of warm water.

After each meal the individual should retire to his room or other suitable place, and with thin wooden toothpicks, or with a sharp-pointed quill used gently, and with dental floss, cleanse the cavities between the teeth and then briskly brush the teeth. It would be impossible to estimate the amount of infection that could be prevented should people adopt such a method of caring for their mouths. Also, a dirty mouth may be one of the causes not only of the diseases that have been positively traced to the mouth, such as some instances of pernicious anemia, but of the gradually developing arteriosclerosis and renal disease.

A patient who is actually sick comes under the care of a nurse, and not a small part of her duty is to see that the mouth is kept clean, and frequently cleansed. Patients with chronic disease should be taught, or assistance should be offered them, to use every means to keep the mouth from, by its infected or pathogenic condition, increasing the disturbances that are present.

When purulent conditions or pyorrhea are actually present, active antiseptics should be used as well as alkaline washes. The treatment of chronic inflammation around the teeth, termed Riggs disease, or, better, interstitial gingivitis, is well described by Dr. E. C. Briggs in The Journal, Aug. 1, 1908.

COLD IN THE HEAD

Although this simple affair has already been several times discussed in this department, as it is constantly with us, it is worth while to review what Dr. C. P. Grayson, of Philadelphia (*Therapeutic Gazette*, May, 1909), has to say on this subject. He tells the general practitioners that they have advanced little beyond their professional grandfathers in the prevention or treatment of this inflammation. He wishes to call the attention of the profession to the fact that purulent inflammation of the middle ear, inflammation of the optic nerve, inflammation of the cerebral tissue of the orbit, and even cerebral abscess can all be caused by improper management or neglect of a simple coryza, and this to say nothing of the frequency with which frontal sinusitis and inflammation of the antrum occurs as sequels to the "cold." While the different nasal infections vary in the virulency of the microbal cause, still simple infections can cause serious distant trouble.

Patients who frequently have acute coryza, and especially patients who have more or less chronic coryza, are sure to have some underlying cause. In children this cause is often adenoids. In adults it is often due to hypertrophied and congested nasal mucous membrane, but Grayson says that he has often found such patients, both adults and children, to have an intestinal toxemia.

An acute rhinitis is, therefore, likely to be founded on a tripod of causes, a chronic rhinitis, chronic intestinal toxemia, and exposure to cold (chilling), or to an irritant (dust, germ or other).

Grayson's treatment of acute coryza is as follows:

1. A cathartic, and best one of the ordinary saline cathartics, or a cathartic mineral water. This may be repeated on the following morning, if deemed advisable.

2. The patient should fast for twenty-four hours, and "during this period he should several times, for fifteen or twenty minutes, indulge in the most active exercise of which he is safely capable." Even women and children may be made to take simple active exercise that will bring about the condition desired, viz., "quickened and invigorated heart action, which will cause the skin, bowels and kidneys to become active eliminating organs, and the congestion of the nasal mucous membrane will rapidly subside and its effects be quickly obliterated."

3. If drugs are to be used at all, Grayson advises the salicylates, also a few drops of aromatic spirits of ammonia, or tincture of nux vomica. These drugs will tend to promote excretion. He does not believe in using combinations of opium, belladonna, aconite and acetanilid, all of which more or less inhibit normal secretion and excretion.

If the patient is old or too weak to carry out the exercise suggested, Grayson advises that gentle means of producing diaphoresis be inaugurated, such as a cabinet bath.

Many patients need no local treatment, but if there is much congestion and the patient needs local treatment by the physician, Grayson first uses a preliminary spray of a 2 per cent. solution of cocain, not more than two or three drops into each nostril. This soon shrinks the lower turbinates. Then with a small tuft of cotton on a slender applicator moistened with the 2 per cent. cocain solution he swabs the middle turbinates. The mucous membrane thus being entirely anesthetized and contracted, the nasal chambers are generously flushed with a mild alkaline wash, such as one part of the Liquor Antisepticus Alkalinus of the National Formulary to three parts of warm water. The patient snuffs this solution back into the nasopharynx, and thus the whole nasal cavity is cleansed. The mucous membrane is next soothed by the insufflation of some bland powder, as zinc stearate. Lastly, some bland, non-irritant, thin oil, containing a few drops of a suprarenal solution, may be sprayed into the nostrils, and the sedative effect of the treatment is prolonged.

Medical Missionary Work in China.—The province of Shansi, China, with a population of over 12,000,000, offers an inviting field to the Christian physician. Dr. W. A. Hemingway, a medical missionary of the American Board, has a small hospital at Tai-ku, where he treated 2,177 cases last year, besides a large number of dispensary patients. He is not troubled with rivals, the nearest hospital on the north being 35 miles distant, on the east and south 150 miles, while on the west there is none nearer than Persia. With only two Chinese assistants and two native men nurses, Dr. Hemingway has accomplished wonders since he went out in 1903. Shansi-men are famous all over China for their business ability, especially as bankers. But the entire province, once wealthy, is cursed with the opium habit, and many of its victims come to this hospital for treatment. The price of the drug has doubled lately, thus forcing the poor to abandon its use, and the law is rigidly enforced that the poppy shall not be planted nor opium brought into the province from the outside.

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[*For other information see second page following reading matter*]

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THE RELATION OF THE LIVER TO FAT METABOLISM

It is but a half-dozen years since Hofmeister aroused some attention by adding up the number of different enzymes which each liver cell must contain to accomplish the various chemical functions known to occur in these cells, the total number being something like ten. The worthy German scholar, however, missed some enzymes, for which there was good evidence even at that time, and if he were to rewrite his address now he would show that newer investigations have brought to light several more enzymes that should go on the list. Even with the respectable total of this revised catalogue of hepatic activities before us, we still must feel that as yet we have secured but a most superficial glance at the obvious industries of that busy little workshop, the liver cell, for new investigations into the metabolic activities of the liver continue to unfold new functions hitherto unsuspected, or at least unidentified. As to the enzymes that must be present within each individual microscopic liver cell, their number is augmented with especial rapidity as we learn that to produce any given chemical change several distinct enzymes may be required. As an illustration take the production of uric acid from nuclear material, a property of liver cells which has been known for some time. Closer investigation shows that to bring about this change the following distinct enzymes are required: first, a proteolytic enzyme to free the nucleic acid from the protein; second, an enzyme which frees the purins of the nucleic acid from the rest of the complex; third, two disamidizing enzymes to convert the purins, adenin and guanin, into the oxypurins xanthin and hypoxanthin; fourth, an oxidizing enzyme to convert the oxypurins into uric acid; and in some animals still another oxidizing enzyme may be present which destroys the uric acid.

One of the most recent disclosures of a hitherto unappreciated activity of the liver cell is set forth by Professor Leathes[1] in his substantial lecture before the Harvey Society last winter, and it concerns the rôle of the liver in fat metabolism. That the liver has much to do with the utilization of fat has long been recognized, while physiologists as well as pathologists have struggled with the knotty problems presented by the fatty changes of the liver in health and disease, only recently reaching something like agreement on the fundamental question of the source of the excessive fat in the degenerated organ. This fat, the work of Lebedeff, Rosenfeld and others seems to establish, is not formed from the protoplasm of the liver cell, as the dictum of Virchow maintained, but comes from the fats of the body and the food, and the studies of Leathes and his associates are emphatically in support of this conclusion. But even in health the amount of fat in the liver varies greatly, although practically constant in the other active organs, and this in spite of the fact that in the process of absorption the fats are kept out of the portal blood and turned into the general circulation by the thoracic duct so that the liver does not receive more in proportion than the rest of the body. Analysis of the fats normally present in the liver shows them, however, to be considerably different from the ordinary fats of the adipose tissue and the food in at least one important respect, namely, their chemical activity. We may recall that of the body fats some, such as stearin and palmitin, are relatively inert chemically, while others, notably olein, are much more active chemically because in them are certain carbon atoms whose chemical affinities are not all saturated. The presence of such unsaturated carbon atoms greatly increases the susceptibility of organic compounds to chemical change, and we see evidence of this in the familiar osmic acid reaction for fats, for osmic acid stains black only oleic acid and not the saturated palmitic and stearic acids.

Study of the fatty acids present in the liver under various conditions has led Leathes to suspect that an important function of the liver consists in transforming the relatively inactive, saturated or nearly saturated fatty acids of the fat depots and food into the more active unsaturated fatty acids. To describe this property figuratively, he says: "It looks as if the work of the liver consisted in an operation which may be compared to the drying of gunpowder. The fats we take in our food are remarkably unreactive substances, and it has always been one of the most astonishing chemical achievements of animal cells that they should be able to burn up completely and cleanly, as they do, so stable a structure as saturated fatty acids like palmitic or stearic acids. They are wet gunpowder, and the body stores its gunpowder wet, and safely removed from the inflammatory operations of busily working cells. When the orders for mobilization are issued, this wet powder is conveyed to the drying chambers in the liver, and from there distributed to the fighting line in a proper condition for use. There are times when the stress of this work is manifestly too great. Too active a mobilization of stored fat, or too little activity in dealing with it on the part of the liver, will result in an accumulation of the unfinished product in that organ. A fatty liver is then the result."

This increased accumulation of fat in the liver may take place in starvation, because of the demand of the body for food supplies, which results in the fat being taken to the liver to be so altered that it can be utilized in the production of energy by the active tissues of the body, such as the heart and skeletal muscles. The alteration accomplished by the liver seems to consist in desaturating certain of the carbon atoms in the long chain of the fatty acid, and perhaps also in shifting the location of the unsaturated atoms in the molecule, in order to render these molecules available for chemical changes. According to this interesting hypothesis, therefore, the chief function of the liver in fat metabolism consists in preparing the fats for utilization by other tissues, and not in disintegrating the fats, for such disintegration of the fats in the liver through oxidation would cause the great amount of energy provided by the fats to be liberated in a place where it is not so immediately available as it is in the muscles.

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[1] Lancet, London, Feb. 27, 1909; abstracted in The Journal, March 27, 1909, lii, 1061.

NEW DEVELOPMENTS CONCERNING URIC ACID METABOLISM

In the discussion of gout in his book on metabolism, von Noorden says: "It is not to-day very alluring to write anything regarding the theory of gout, especially in a book which is essentially devoted to the presentation of facts. All the theories advanced up to the present time have fared badly. The positive material is much too insufficient and too ambiguous." While the theory of gout has not been made less hazardous, yet in the few years since v. Noorden wrote this statement the positive material has been considerably increased, and this at the expense of one theory in particular, namely, that gout depends on a loss or decreased power of the body to destroy uric acid. The recent advances have been made particularly through study of the enzymatic actions by which purin metabolism is accomplished, in which work Schittenhelm and Wiechowski have been particularly prominent, although several other investigators have made substantial contributions. The former, with his colleagues, has developed our knowledge of the several steps by which nucleoproteins are converted into free purins, and these, in turn, are changed into uric acid by loss of nitrogen and addition of oxygen. Wiechowski has particularly studied the enzyme concerned in the destruction of uric acid by the tissues, and the fate of free uric acid in the body. This uricolytic enzyme, which has been appropriately called uricase by Battelli and Stern, is an oxidizing enzyme, acting best in experimental digestions when a lively current of air is running through the digestion mixture, and which seems not to be present in the blood plasma and tissue fluids, but only in the cells. It acts rapidly and with striking effect, for active organ extracts are sometimes able to destroy quite considerable quantities of uric acid in a few hours; for example, one gram of powdered tissue, dry weight, can often destroy totally 0.1 gram of uric acid in four hours.[1] Unlike the enzymes of autolytic disintegration of tissues, uricase is not inhibited by the presence of an excess of serum. Another interesting feature is that this enzyme acts reversibly, or at least tissue extracts which destroy uric acid with a current of air running through soon build up the uric acid again when the air is shut off.[2]

Not all tissues contain this enzyme, its distribution, according to the investigations yet made, being as follows:[3] In bovines it is found in the kidney, muscle and liver, but not in the spleen, lungs or intestines; in dogs in the liver, but not in the kidneys, spleen or bone marrow; in the liver of pigs, rabbits and guinea-pigs; in the kidneys and many other organs in the horse, but not at all in the tissues of turtles and geese.

Of particular significance, however, is the observation that, so far as the means at hand disclose, no human tissue whatever possesses any appreciable power to destroy uric acid. There are, to be sure, various early observations which seemed to show at least a moderate uricolytic activity on the part of human tissues, but in view of the more recent work these results must be considered erroneous, perhaps because of faulty technic. The failure of human tissues to destroy uric acid under conditions which permitted complete destruction of uric acid by organ extracts from other mammals was observed by Künzel and Schittenhelm,[4] and later but independently by Wiechowski[5] and Wells and Corper. Using a different method from the above investigators, Battelli and Stern[6] find that, with the solitary exception of man, every mammal which they have investigated—and the number is considerable—possesses uricase in either the liver or kidney. In view of the fact that the human tissues, or at least the human liver, possess the necessary enzymes to manufacture uric acid from nucleoproteins, it is remarkable that man is not able to destroy the product as can all the other mammals. It seems impossible to doubt that this defect is responsible for the tendency of mankind to gout with uric acid deposits, a condition which affects no other mammals, but does occur in birds, which are, like man, devoid of uricolytic enzymes. As corroborative evidence is the fact that swine suffer from a form of gout in which a purin, guanin, is deposited in the tissues rather than uric acid, and swine are peculiar in that their livers do not possess the enzymes which act on guanin (Jones, Mendel).

It might be suggested that these experiments which show the absence of uricolysis in human tissues, having been made *in vitro,* do not prove positively that the living organs within the body are equally devoid of uricolytic activity. This objection may be met, however, by the experiments of Wiechowski, which seem to show that practically all the uric acid which is injected subcutaneously in man reappears unchanged in the urine. The chief product of uricolysis by uricase is allantoin, which has been found more or less abundantly in the urine of every mammal investigated, except man, whose urine contains but traces.[7] This exception in the case of man furnishes good corroborative evidence of the absence or scantiness of active uricolytic enzymes in his body. To be sure, there are to be found statements in the older literature to the effect that pregnant women and new-born infants excrete allantoin in the urine, but Wiechowski finds that the methods then used were entirely unreliable, and Wells and Corper found that human placenta and fetal tissues at all ages were as devoid of uricase as adult human tissues. If man possessed the same uricolytic enzymes as the other mammals it is to be presumed that his urine would contain considerable allantoin, since experiments show that allantoin injected subcutaneously into man all reappears in the urine; the small amount of allantoin that is found in human urine, therefore, is good corroborative evidence that the human body is defective in uricolytic enzymes, a fact of fundamental importance in all considerations of gout and purin metabolism.

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[1] Wiechowski and Wiener: Beitr. z. chem. Physiol. u. Path. (Hofmeister's), 1907, ix, 247.

[2] Ascoli and Izar: Ztschr. physiol. Chem., 1909, lviii, 529.

[3] Wells and Corper: Jour. Biol. Chem., 1909, vi, 324.

[4] Zentralbl. f. Physiol. u. Pathol. d. Stoffwechsels, 1908, iii, 721.

[5] Arch. f. exper. Path. u. Pharm., 1909, ix, 185.

[6] Biochem. Ztschr., 1909, xix, 219.

SPOROTRICHOSIS

Blastomycetic infection of the skin is now, thanks largely to the investigations of American observers, a well-recognized morbid condition. A considerable amount of literature has recently accumulated dealing with infections, not only of the skin, but of other tissues, by a fungus related to the *Blastomycetes*, the so-called *Sporotrichum*.

Schenck,[1] in 1898, observed a case of multiple, small, very refractory ulcerations of the skin of the right forearm which had formed along the course of the lymphatics leading from an ulcer of the index finger. The ulcers had resulted from the breaking down of small, circumscribed subcutaneous indurations. Cultures were made from the ulcers and indurated nodules, and Schenck's subsequent studies showed that the causative organism was a *Sporotrichum*, a fungus of the order *Hyphomycetes*, which grows readily on all the usual culture media. Schenck was able to reproduce the skin lesions in a dog by subcutaneous injections of the fungus, and, what is most important in the light of recent work, produced a general infection in mice with especial involvement of the lymphatic glands.

Schenck's observations have been verified and augmented by several American and French writers.[2] Sporotrichal lesions of the skin, mucous membranes, lymph glands and muscles have been described. De Beurmann, Gougerot and Vaucher[3] have directed attention recently to the occurrence of sporotrichal infections of the bones, a clinical manifestation which they were led to anticipate from the occurrence of similar lesions in their experimental researches on rats. According to these writers, the periosteum alone may be affected, causing nodular thickenings, or the bone substance itself may be involved, producing a sporotrichal osteomyelitis. Such lesions are said to be easily confused with similar changes of tuberculous or syphilitic origin, and the diagnostic difficulty is increased by the fact that the tibia seems to be the site of predilection for sporotrichal infections. In the cases of bone infection so far recorded, however, characteristic lesions in other structures permitted the detection of the sporotrichum by cultural methods. These observers have also produced joint lesions in rats by subcutaneous injections of the sporotrichum, and they urge a more careful differential study of chronic bone and joint infections with the aid of cultures.

Diagnosis is easy if cultures are made from the lesions, for the organism grows well on all the ordinary culture media in from four to five days at room temperature. It can be demonstrated in the lesions microscopically only with great difficulty. Widal and Weil[4] have shown that the spores of the fungus agglutinate when mixed with the patient's serum at dilutions of from 1-200 to 1-1500, and they describe a complement-deviation phenomenon similar to the Wassermann reaction in syphilis.

Sporotrichal infections show very little tendency to spontaneous healing. Fortunately, potassium iodid in doses up to 90 grains, supplemented by the local application of a solution consisting of water, 500 c.c., potassium iodid, grams 10, iodin, gram 1, is very efficacious, the lesion healing, it is said, in from four to six weeks.

THE VITALITY OF SUPERSTITIONS

Professor Sumner[1] recently conjectured that the civilized world might some day drift back to demonism. The date need not have been left indefinite, so far as at least some portion of civilization is concerned. In the present day there are aberrations quite as peculiar as those which surprise us in reading the history of the middle ages. We may well agree with Lecky that one generation differs from another less in the amount of credulity it evinces than in the direction such credulity takes. Belief in marvelous cures, faith in magic—these things are not dead to-day; at best they but slumber, to be aroused to lusty and malignant activity by the next unscrupulous or fanatical leader. Nor is it any more difficult in this twentieth century, it would seem, to excite emotional epidemics than it was in witchcraft days, or when there were processions of flagellants and dancing manias.

To assure himself of the truth of these gloomy observations, one need but glance through any daily newspaper. Consider, for example, the faith-cure craze but recently revealed in a western state. A bill was introduced before the legislature providing that, in connection with elementary hygiene, public school pupils be taught how to avoid contagion and the commoner ailments. Immediately protests began to pour in from *all* sorts of radical mind-healers, who held that it would be sinful to give children the impression that disease was real; according to newspaper statements, this was the message in hundreds of letters and long petitions. The assembly committee on public health, despite its three physician members, was overawed at the first hearing on the measure, and killed it. Thus has superstition become the match of medical science in shaping the educational policy of public schools.

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[7] Wiechowski: Biochem. Ztschr., 1909, xix, 368.

[1] Bull. Johns Hopkins Hosp., 1898, ix, 286.

[2] THE JOURNAL A. M. A., Aug. 8, 1909, liii, 500.

[3] Rev. de chir., 1909, xxxix, 662; abstr. in THE JOURNAL, May 29, 1909, lii, 1799.

[4] Quoted by Beurmann, Gougerot and Vaucher.

[1] Sumner, W. G.: Witchcraft, Forum, May, 1909.

All this is depressing enough. Through many painful generations science has been evolving order out of philosophic chaos. This is especially true of medical science, which has accomplished far more than any other factor for the welfare and happiness of mankind; it has come, indeed, to deserve such tribute as was recently paid by an eminent clergyman: "You will find to-day the largest body of disinterested, laborious, self-sacrificing men, looking for no reward and getting no reward except that which comes from faithful service to mankind, in the profession of medicine." A century and more ago Jenner demonstrated how a dreadful pestilence need never again afflict our fellows; yet to this day would the mind-healer have us revert to its medieval horror. Von Behring has shown how deaths from diphtheria can be avoided for little children; to this very day would the faith-curist stand over children suffering from this disease, trusting to prayer only, and withholding the sure relief, while they expire from suffocation. Pasteur and Koch have shown how tuberculosis can be eliminated from human experience; the Eddyites would press the conviction (and, amazing to state, do convince some) that this disease is non-existent. Better than this it were, indeed, to revert to voodooism; for the latter has, at any rate, the sense to believe in tuberculosis and to seek a material remedy.

SANATORIUMS AND PROPERTY VALUES

The National Association for the Study and Prevention of Tuberculosis *has collected evidence showing that* well-conducted sanatoriums, dispensaries and camps for sufferers from tuberculosis are not detrimental to any community; that, on the contrary, their presence tends *rather to enhance than to depreciate its property values.* Recently, the subject has been studied, continuing an investigation conducted four years ago by William H. Baldwin,[1] of Washington, D. C., and for a summary of this study we are indebted to the *Survey*. Thirty-seven institutions were considered, and these were located in twenty-two states, as diverse in situation as Maine and California, as Oregon and Georgia. According to sanatorium authorities, real estate agents, as well as various disinterested people, more than 67 per cent. of these sanatoriums have favorably influenced the property surrounding them, and have otherwise benefited their respective communities. Twenty-three (62.2 per cent.) of these institutions helped definitely to increase assessed valuations. In only one instance was there a decrease in value, and this is considered to have been due to ignorance of the facts. In twenty-two cases among the thirty-seven the sanatorium facilitated the sale of land; in only four cases was any detrimental effect on sales shown. In more than half the cases, residents were attracted by the sanatorium, and in only three localities were they repelled. In the vicinity of a sanatorium in Portland, Oregon, land has more than doubled in value in three years, being in demand close to the institution; at Aiken, S. C., property in the neighborhood of the local sanatorium has increased fourfold since its erection; at Asheville, N. C., vacant lots near one of the sanatoriums sell at four times their price in 1900, and others farther from the institution but nearer the city are less valuable; at Hebron, Me., surrounding property has increased 20 per cent. as a direct result of the presence of a tuberculosis sanatorium. Similar effect on land values is reported from Luzerne, Pa., Liberty and Saranac Lake, N. Y., Pittsford, Vt., Mount Vernon, Mo., and Silver City, N. M. In St. Louis, Philadelphia, New York, Brooklyn, Boston, Pittsburg and other large cities, property surrounding tuberculosis institutions has increased in price; not a single instance was reported in which the presence of a camp, dispensary or sanatorium in a large city has had a detrimental effect on contiguous property. It is noted that the courts of Massachusetts, North Carolina and Virginia have decided that a tuberculosis sanatorium is not a menace to the health of a community, or to the property in its vicinity.

Much of the lay opposition to the sanatorium in the past has been due to misconception of the nature of infection in tuberculosis. Nor is it yet universally understood that in this disease the virus is not air-borne; *that practically all infection from consumptives to their* fellows is through the medium of the sputum, and that when this is properly disposed of there is no danger. The fight against tuberculosis sanatoriums has frequently been bitter, and sometimes virulent; it has nearly always been occasionless and based on ignorance. Poor Bodington, who in 1840 established the first institution on our modern principles of phthisiotherapy, had to succumb to it; on which, with much relevance, he turned his institution into an asylum for the insane. Next came Brehmer, who, fortunately for humanity, weathered superbly the cyclonic storms which beset him. Since 1854, when he began his work at Goerbersdorf, that village, fortunate in its defeats at his hands, has trebled its population; it has become vastly prosperous; it is now ready to accommodate any number of sanatoriums, and there are to-day within its hospitable limits at least five such institutions.

This is fast becoming the universal experience. There is no place so safe from tuberculosis infection as a well-ordered sanatorium; in nineteen years no nurse or other attendant or any servant contracted tuberculosis in the institution the destinies of which are directed by Trudeau; would any one dare say as much of any city home in which there has been a consumptive? The sanatorium has always had a commercial value, the nature of which was soon grasped by the astute agriculturist; it needs every day enormous quantities of butter, eggs, milk, cream, meats—and why should not these staples, as well as the labor required, be furnished by its neighbors? In cities, also, merchants have found these institutions a stimulus to trade. The sanatorium, moreover, raises local health standards; it becomes a school in which the vicinity learns the principles of hygiene and prophylaxis. Besides, the very fact of a given locality being selected for a sanatorium site is a surety and a gratuitous advertisement that it is a salubrious region, and this tends to make the place a profitable "health resort," and helps real estate agents to get "cottages" and other similar buildings erected.

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[1] Property Benefited by Tuberculosis Sanatoriums, Survey, June 19, 1909, xxii, 422.

THE PREVENTION OF MALARIA

Malarial disease is so familiar to us in its milder forms that few, even of experienced practitioners, have an adequate conception of what its actual cost in human life and human health is in the aggregate in our country. Figures which may be assumed to be reliable, as quoted by Dr. Seale Harris in his article in this issue, give us a mortality, as he says, greater than that of any or all the epidemics of yellow fever in the last half century. Taking into account that mortality is a very poor index of the actual damage done by this disease, since Dr. Harris says that probably not one in five hundred of those affected dies, these figures are sufficiently formidable. It is the morbidity caused by malaria, however, that is the factor mainly to be considered, and the importance of this can hardly be overestimated. Without going into the usual calculations of the value of human life and health from a financial standpoint, there is sufficient evidence of the evil to be found all over the world in deserted regions which were formerly centers of active and thriving populations. In spite of this, malaria is a preventable disease and this waste of human life and health can, to a very large extent at least, if not entirely, be avoided. Even in the tropics, where the conditions are most unfavorable, as in the Malay States and Panama, it has been shown that it can be permanently stamped out. These facts show that the problem is not so difficult as it appears, and we have had sufficient object lessons of the ease with which it may be accomplished in some parts of the Middle West where chills and fever, once very prevalent, have almost entirely disappeared, from the ordinary methods of opening up the country with cultivation and drainage. Dr. Harris' recommendations that malaria should be made a reportable disease and the patients isolated, may be difficult to carry out in some communities, but they are not impracticable and with the proper education of the people the difficulty would probably soon disappear. This can be accomplished, as he says, by means of lectures and tracts, etc., and, still better, by the individual efforts of those who are already enlightened on the subject. The benefit of a national association for the study and prevention of malaria is well illustrated by the experience of Italy, in which country the mortality and morbidity have been very largely reduced. Malaria prevention may sometimes raise interstate questions and the necessary measures cannot be always efficiently carried out by local legislation. Still, any community can protect itself against indigenous infection, unless very exceptional and extraordinary conditions exist. It is not ordinarily essential that the aid of the national government be invoked, but, in order to carry out the larger drainage enterprises that may be advisable, its help will be exceeding useful if not absolutely necessary.

Medical News

FLORIDA

Personal.—Dr. Henry C. Dozier, Ocala, has been appointed local surgeon for the Atlantic Coast Line, vice Dr. William H. Powers, deceased.——Dr. Gaston Day has been appointed city physician of Jacksonville.

Bacteriologic Laboratory.—Tampa has donated a site for a branch laboratory of the State Board of Health, and the board has decided to locate in that city. The state will erect a building to cost about $30,000. Dr. Howard S. Holloway, who has been in charge of the Jacksonville office, will take charge of the temporary laboratory to be used until the completion of the new building.

Tuberculosis Sanatorium Donated to State.—Dr. John E. Ennis, who has conducted for several years a private tuberculosis farm sanatorium near Kissimmee, has offered to donate the property to the state on condition that it is to be thoroughly equipped and so conducted as to prove of benefit to the greatest possible number of tuberculosis patients. The proposition has been accepted by the State Board of Health, and the board has acquired by donation sufficient land to make a total of 100 acres, located in Hendon Park, with a frontage along Hendon Lake. About $87,000 is at present available for the establishment and maintenance of the farm.

ILLINOIS

Hospital Opened.—It is announced that Graham Hospital, Canton, was opened about October 5.

Personal.—Dr. Ora L. Pelton, Jr., Elgin, has started for Europe.——Dr. Otto R. Scott, Chrisman, who has been critically ill, is reported to be improving.——Dr. and Mrs. Bernard Fantus, Chicago, have returned from Europe.

Antispitting Crusade.—The Board of Health of Rock Island has inaugurated a crusade against expectoration, and has posted placards calling attention to the fact that persons spitting on sidewalks will be subject to a fine of $5.

Free Health Advice to Working Men.—The Occupational Disease Commission announces that a publicity campaign will be inaugurated with the cooperation of state officials and medical experts. The scope of this work will include hints for workers and employers on every occupation of injurious nature, extending to household occupations.

Investigate Pellagra.—Following an investigation by the president of the State Board of Charities, and others, into the pellagra conditions at the Peoria State Hospital, South Bartonville, Secretary W. C. Graves is to submit a report to the governor recommending that a committee of physicians and biologists be authorized and appointed to make a complete investigation into the disease.

State Conference of Charities.—The fourteenth annual meeting of the Illinois State Conference of Charities and Correction will be held in Peoria October 9-12, under the presidency of William C. Graves, secretary of the State Board of Charities, Springfield. Among the more important features of the convention are addresses on "Occupations for the Blind," by Charles F. F. Campbell, Cambridge, Mass., superintendent of the Industrial department of the Massachusetts Commission for the Blind, and vice-president of the National Society for Workers Among the Blind; "Clinical Organization of State Hospitals," by Dr. William L. Russell, state inspector of state hospital service for the New York Commission in Lunacy; "Adult Probation," by Warren F. Spalding, secretary of the Massachusetts Prison Association; "Care of Needy Families in their Homes," by Marcus C. Fogg, district superintendent of the Pittsburg Associated Charities; "Medical Supervision of Public Schools," by Dr. James Stewart, medical supervisor of the St. Louis public schools. The president will respond for the conference and will speak briefly on "The Relation of the New State Charities' Administration Law to the State Conference of Charities and Correction, and to the City and County Governments."

INDIANA

To Aid the Work Against Tuberculosis.—Responding to the appeals of the Evansville Antituberculosis Society, the Vanderburg county council, at its annual meeting, September 7, appropriated $1,000 for the work against tuberculosis.

Personal.—Dr. Mary E. Jackson, Hammond, while making a professional call, September 22, fell through a rotten porch and suffered a fracture of the left patella and severe contusions.——Dr. John I. Metts, Ossian, is reported to be critically ill with cerebral hemorrhage.——Dr. Charles R. Dancer, Fort Wayne, has been appointed city medical inspector of schools.

MASSACHUSETTS

Test Pupils for Typhoid.—In order to prevent further spread of typhoid fever among school children of the Brighton district, the chairman of the Board of Health has had cultures taken from each of the 4,500 school children of that district.

Inauguration of Harvard's President.—The program for the inauguration exercises of the new president of Harvard University, Abbott Lawrence Lowell, October 5-7, contains the following items of interest to medical men: At 2:30 p. m., October 6, the Harvard Alumni Association will meet in Memorial Hall; and on Thursday afternoon the Faculty of Medicine and the Harvard Alumni Association will be hosts at an afternoon tea at the medical school, Longwood avenue.

Personal.—Dr. James V. W. Boyd, Springfield, has been named to succeed Dr. Herbert C. Emerson, resigned, as health inspector and physician of the Fourteenth district.——Dr. Clarence I. Sparks, Easthampton, has been named medical examiner for the Hampshire district, vice Dr. William G. Kimball, Huntington, resigned.——Dr. Henry A. Christian, dean of Harvard Medical School, delivered an address at the dedication of the new medical building of Leland Stanford, Jr., University, and was entertained at luncheon by the medical faculty of Epworth Medical University and Oakland County Medical Society, September 17.——Dr. J. W. Crawford has agreed to take charge of the tuberculosis camp established by the Young Men's Christian Association of North Adams.

MINNESOTA

Zone of Quiet.—Alderman Bow, a member of the Minneapolis council committee on health and hospitals, will introduce an ordinance for the establishment of a zone of quiet to be maintained in the vicinity of all hospitals in the city.

Personal.—Dr. S. Scott Blacklock, Hibbing, was recently operated on for appendicitis and is making a good recovery.——Dr. Hannibal H. Kimball, Minneapolis, has returned from Europe.——Dr. William C. McCarty, Rochester, had his right hip dislocated in an automobile accident at Ogden, Utah, September 21.

Experiment with School Medical Inspection.—The Board of Education of Duluth has decided to establish temporary medical inspection in four schools of the city as an experiment, and if this prove satisfactory, the inspection will be adopted by the board for all schools, and the cooperation of the parochial schools will be asked. Dr. Samuel H. Boyer is the medical member of the committee on schools and teachers which formulated this plan.

State Medical Society Meeting.—The annual meeting of the Minnesota State Medical Association will be held in Winona October 12-14, under the presidency of Dr. Cornelius Williams, St. Paul. The oration in medicine, on "Administration Problems in Relation to the Public Health," will be given by Dr. Walter Wyman, Surgeon-General U. S. P. H. and M.-H. Service, Washington, D. C., and symposia on the following subjects, "Epidemic Anterior Poliomyelitis," "Cooperation of State Forces in Minnesota Medicine," "Ophthalmia Neonatorum," and "Typhoid Fever, a Medical and Economic Problem as Illustrated by the Classical Mankato Epidemic of 1908."

MISSOURI

Quarantine Time Extended.—The St. Louis Board of Health has increased the quarantine period for scarlatina from four weeks to six weeks.

County Society Purchases Stereopticons.—The St. Joseph-Buchanan County Medical Society has purchased two large stereopticons for use in the course of postgraduate study, suggested by the American Medical Association, which the society has commenced.

Hospital Staff Appointed.—The winter staff for the new Kansas City General Hospital has been appointed as follows: Attending staff surgeons—Drs. Jabez N. Jackson, Albert H. Cordier, Jefferson D. Griffith, John F. Binnie, Herman E. Pearse, B. Clark Hyde, Howard Hill, John M. Frankenburger and Ernest F. Robinson; assistant surgeons—Drs. James P. Henderson, A. Comings Griffith and Ottokar Hofman, Jr.; physicians—Drs. John L. Robinson, Samuel C. James, Robert T. Sloan, Charles C. Conover, Otho L. McKillip, Franklin E. Murphy, Hugh D. Hamilton, and J. M. Lowe. Consulting staff: Obstetrics—Drs. Caleb A. Ritter and George C. Mosher; pediatrics—Drs. Clay S. Merriman, Harry L. Heller and Jesse E. Hunt; gynecology—Drs. George B. Norberg and C. Lester Hall; otology and laryngology—Dr. James E. Logan and David L. Shumate; ophthalmology—Drs. Flavel B. Tiffany and Andrew W. McAlester, J [illegible] Halsey M. Lyle and William Frick; [illegible] George W. Davis, Jacob Block and Ernest G. Mark; neurology—Drs. John Punton, Henry O. Hanawalt and Rush E. Castelaw; skiagraphy.—Drs. Edward H. Skinner and Oliver H. McCandless; and pathology—Drs. Frank J. Hall and Otto L. Castle.

NEW MEXICO

New Mexico Red Cross.—The New Mexico branch of the National Red Cross elected the following officers at the annual meeting, September 17: President, Dr. George W. Harrison, Albuquerque; vice-president, Dr. James W. Laws, Lincoln, and secretary-treasurer, Dr. John W. Colbert, Albuquerque.

Antituberculosis Society Organized.—At the meeting of the New Mexico Medical Society, a New Mexico branch of the National Society for the Study and Prevention of Tuberculosis was organized with the following officers: President, Dr. Francis T. B. Fest, East Las Vegas; vice-president, Dr. John W. Colbert, Albuquerque; and secretary-treasurer, Dr. Leroy S. Peters, Silver City.

NEW YORK

New York City

Personal.—Dr. Smith Ely Jelliffe has just returned to New York to his practice after a year spent in study in Germany and France.

Sea Breeze Home Closed.—The Sea Breeze Fresh Air Home maintained by the New York Association for Improving the Condition of the Poor was closed on September 30. During the summer 22,687 women and children have been taken to this home for one-day stays and 4,171 for stays averaging between eight and ten days.

Good Service by Field Hospitals.—Occurrences along the line of march of the parades during the Hudson-Fulton celebration showed that the field hospitals were well organized and entirely efficient for the service they had undertaken. All were busy at one time or another. The majority of cases were those of persons who had fainted, though there were several instances of epileptic fits and a number of heat prostrations. The number of injured was not great.

Another Milk Depot.—Nathan Straus, whose work of supplying pasteurized milk for babies has entered on its eighteenth year, has added another milk station to those already maintained by him. This makes the eighth permanent depot which he maintains all the year around. In the year just ended the Straus stations have supplied 3,410,105 bottles of pasteurized milk and during the past summer at the stations in the parks and on the piers 1,523,251 glasses of pasteurized milk were served.

Buffalo

Medical College Opens.—The University of Buffalo began its sixty-fourth regular session Monday evening, September 27. Dr. Peter W. Van Peyma, professor of obstetrics, delivered the opening address.

Personal.—Dr. Herbert H. Glosser is taking a three months' post-graduate course at Vienna.——Dr. Herbert D. Pease has resigned as director of the state hygienic laboratory, New York State Department of Health.

NORTH CAROLINA

Gunshot Wounds.—Dr. P. L. Hagler, Birmingham, was shot and seriously wounded by William McIntyre recently.——Dr. J. Lewis Hanes, Winston-Salem, Pine Hill, while hunting, shot himself in the thumb, which was afterward amputated.

Warning Against Lithia Water.—The *Bulletin of the North Carolina State Board of Health* for August officially announces that "the water sold by the Buffalo Lithia Springs Water Company of Buffalo Lithia Springs, Va., and by Smith's Lithia Water Company of Oxford, N. C., has been found by three successive analyses made by the State Laboratory of Hygiene, to be dangerous to public health."

OHIO

Take Patients on Probation.—The State Tuberculosis Hospital, Mount Vernon, will be ready to receive patients October 15. All patients will be received on four weeks' probation.

Antituberculosis.—At the meeting of the Antituberculosis and Health League of Allen County, held at Lima, September 17, Drs. William E. Hover, Albert S. Rudy, William H. Parent and James B. Poling, Lima; George S. Weger and James R. Tillotson, Delphos, were elected trustees, Dr. James B. Poling, Lima, was elected secretary, and George E. Johnson, Auglaize, and Richard E. Jones, Gomer, were elected township vice-presidents. The trustees, by unanimous vote, indorsed Dr. William E. Hover, Lima, for president of the league.

Personal.—Dr. Estell H. Rorick, formerly superintendent of the Athens State Hospital and the State Institution for the Feeble-Minded, is reported to be seriously ill with lung disease at The Dalles, Ore.——Dr. William L. Jackson, Newark, is convalescent after a severe attack of ptomain poisoning.——Dr. Ernest S. Brooks has been appointed physician in charge of the Cleveland Tuberculosis Sanatorium, Warrensville, vice Dr. Joseph C. Placak, resigned.——Drs. John D. O'Brien and Henry C. Eyman, Massillon, have sailed for Europe.——Dr. Judson A. Hulse has been made school inspector of Akron, vice Dr. Dan M. McDonald, resigned.——Dr. Mason O. Wert, Poplar, sails for Europe October 12.

Cincinnati

Flag Day.—Superintendent Withrow of the Antituberculosis League announces that Flag Day will be held October 16, when it is expected to dispose of 100,000 large and small American flags, the proceeds to be used in carrying on the work of the league against tuberculosis in Cincinnati, and the establishment of a large tuberculosis pavilion at the branch hospital.

Personal.—It is announced that President Dabney of the Ohio-Miami Medical College will assume the duties of dean for the time being.——Dr. Frazier X. Monroe has received a government appointment and has been detailed for duty in the Canal Zone.——Dr. Oliver P. Holt was operated on recently for appendicitis at Rochester, Minn.——Dr. John L. Waffenschmidt is reported to be critically ill.

PENNSYLVANIA

State Society Election.—At the fifty-ninth annual meeting of the Medical Society of the State of Pennsylvania, held in Philadelphia, September 27-30, the following officers were elected: President, Dr. Theodore B. Appel, Lancaster; vice-presidents, Drs. Charles A. E. Codman, Philadelphia, Henry H. Riegel, Catasauqua, Joseph W. Albright, Muncy, and Charles W. Bachman, Reading; secretary, Dr. Cyrus L. Stevens, Athens; treasurer, Dr. George W. Wagoner, Johnstown; trustees, Drs. William A. Nason, Roaring Spring, John B. Donaldson, Cannonsburg, and David H. Strickland, Erie; and delegates to the American Medical Association, Drs. George W. Guthrie, Wilkes-Barre, Alexander R. Craig, Philadelphia, John B. Lowman, Johnstown, Horace G. McCormick, Williamsport, and Americus R. Allen, Carlisle. The next annual meeting will be held in Pittsburg.

Philadelphia

Personal.—Dr. J. William White has been elected a member of the Fairmount Park Commission.——Dr. Harry Lowenburg has been made instructor in pediatrics in Jefferson Medical College.

Reception to Dr. Cook.—At the conclusion of his lecture in Philadelphia, on September 29, Dr. Frederick A. Cook, the Arctic explorer, was entertained at a banquet by the Medical Society of Pennsylvania, then in convention.

Criticize City's Institutions.—The grand jury for the September term visited the city's penal and charitable institutions and found them generally in fair condition. They reported light and ventilation lacking to a considerable degree in some of the older buildings. They criticized the over-crowded condition at the Philadelphia General Hospital.

Health Report.—The total number of deaths reported for the week ended October 2, reached 390. This is a decrease of 50 from the number reported in the previous week and a decrease of 62 from the number reported in the corresponding week of last year. There were 134 cases of contagious disease reported with 18 deaths as compared with 128 cases and 9 deaths reported in the preceding seven days.

Abnormal Pupils to Receive Proper Care.—It is reported that there are 442 mentally deficient and physically abnormal children in the city's public schools and the authorities have planned to have these children committed to institutions where they can receive proper attention and treatment. This movement is the first step toward the abolition of special schools and the establishment of classes for backward and deficient pupils of the elementary grades. A committee of five psychologists has been appointed to look after this work by the superintendent of public schools, Dr. Simon S. Brumbaugh. Those who show the slightest traces of normality, or who can, by scientific methods, be put on a plane with the average child, will be treated at the psychologic clinic of the University of Pennsylvania.

SOUTH CAROLINA

Physician Enjoined.—In the case of J. W. Crawford, charged with the practice of medicine at Donalds, Abbeville county, without license, and under a temporary restraining order obtained from Judge J. W. Klugh, August 31, the court on September 4 held the medical practice act constitutional, and made the injunction permanent.

Personal.—Dr. Francis A. Coward has been placed in charge of the laboratory recently opened at Columbia by the State board of health.——Dr. J. R. Wilkinson, Charleston, medical missionary to China, of the Southern Presbyterian Church, sailed from Vancouver September 6.——Dr. J. William Folk, in charge of the Georgetown quarantine station, South Island, has resigned.——Dr. Louis C. Barbot, Charleston, received severe injuries in a runaway accident September 3.

TENNESSEE

To Care for Tuberculous Poor.—Dr. Henry P. Colle, president of the Knoxville Association for the Prevention and Relief of Tuberculosis, reports that the association will soon build an institution for the isolation and treatment of the tuberculous poor of that city.

Colleges Open.—At the opening of the medical department of the University of Chattanooga, September 22, the matriculation address was delivered by Major Charles R. Evans, dean of the law department.——The medical department of Lincoln Memorial University, Knoxville, formerly known as Tennessee Medical College, opened for the year, October 1.

TEXAS

New Cottages.—Managers of the state insane hospital have awarded the contract for two cottages for tuberculosis patients, to cost $35,000.

New Sanitary Code Adopted.—At the meeting of the state board of health, in Austin, September 14, the sanitary code was adopted and transmitted to the governor for his approval. The board decided to spend $15,000 on the state quarantine station.

Personal.—At the regular quarterly meeting of the Seventh Councilor District Medical Society, held in Austin, September 23, Dr. Washington A. Harper was elected president, vice Dr. Matthew A. Taylor, deceased.——Dr. Frederick W. Kirkham, formerly of Cuero, has moved to Brownsville, and has been appointed health officer of Cameron county.

Ruling on New Medical Statute.—The attorney-general's department has ruled that a physician licensed to practice in 1901, but who has no recent verification license, as prescribed by the act of 1907, cannot legally practice medicine by virtue of the license originally issued, but that it will be necessary for him to go before the present medical board, be examined, and obtain a license from the board.

VERMONT

New Sanitarium.—Dr. Grace W. Sherwood has purchased the Herbert Brainerd House, St. Albans, and will open a private sanitarium to accommodate 10 patients.

State Medical Society Meeting.—The ninety-sixth annual meeting of the Vermont State Medical Society will be held at White River Junction, October 14 and 15.

Medical Society Elections.—The Rutland Medical Reporting Club was organized September 9, with the following officers: President, Dr. Mark R. Crain; vice-president, Dr. William W. Townsend, and secretary-treasurer, Dr. Ray E. Smith.——At the annual meeting of Washington County Medical Association, held in Montpelier, September 21, Dr. Orlando G. Stickney, Barre, was elected president; Dr. Lester W. Burbank, Cabot, vice-president; Dr. Edwin A. Colton, Montpelier, secretary, and Dr. Louis A. Russlow, Randolph, treasurer.

Medical Staff Election.—At the annual meeting of the medical staff of St. Albans Hospital, September 22, Dr. John Gibson was elected president and Dr. George C. Berkley secretary. Drs. Edwin A. Hyatt and William B. Arnold, St. Albans, and Fred S. Hutchinson, Enosburg Falls, were appointed to arrange terms of service for the medical staff, to make weekly visits to the hospital, personally to inspect the sanitary condition of the building and grounds and examine the foods and medicine. Dr. Waldo J. Upton was elected a member of the staff of lecturers of the training school for nurses.

VIRGINIA

Colleges Open.—The annual session of the Medical College of Virginia, Richmond, opened September 14, Dr. Christopher Tompkins, the dean, delivering the address of welcome.——The annual session of the University College of Medicine, Richmond, opened September 14.

Personal.—Dr. Stanley H. Graves, Norfolk, has been appointed a member of the State Board of Health, vice Dr. Charles R. Grandy, Norfolk, resigned.——Dr. W. H. O. McGehee, dean of the dental department of the University College of Medicine, Richmond, has resigned and will remove to Cincinnati, where he has been elected professor of operative and clinical dentistry, and superintendent of clinics in the Ohio College of Dental Surgery.——Dr. William R. C. Booker, Bristol, was seriously injured, September 1, by being thrown from his horse.

Medical Societies Meet.—At the annual meeting of the Tidewater Medical Society, held in Urbanna, the following officers were elected: President, Dr. William P. Jones, Urbanna; vice-presidents, Drs. J. W. Dorsey Haynes, Cobb's Creek; John N. DeShazo, Center Cross; Alfred C. Palmer, Richmond; and Claybrook Fauntleroy, Dragonville; and secretary-treasurer, Dr. George W. Brown, Saluda.——At the annual meeting of Elizabeth City County Medical Society, held in Hampton, Dr. J. Wilton Hope was elected president; Dr. William H. Howard, vice-president, and Dr. Harry D. Howe, secretary-treasurer.

Coroners' Association Meets.—At the meeting for organization of the Virginia Coroners' Association, September 21 and 22, the following officers were elected: President, Dr. Lucien Lofton, Emporia; vice-presidents, Drs. John W. Brodnax, Manchester, and H. Gilbert Leigh, Petersburg; secretary, Dr. McCandlish M. Moran, Pinners Point; treasurer, Dr. Joel Crawford, Yale, and executive committee, Drs. H. Gilbert Leigh, Petersburg; Edmund H. Lewis, Culpeper, and William H. Taylor, Richmond. The association recommended that a state law be enacted requiring the appointment of coroners for the 66 counties of the state in which there is at present no such officer for the protection of the people and investigation of suspicious cases, and that a law be enacted requiring all embalmers to use the same embalming fluid, which should be free from chemical poisons.

GENERAL NEWS AND COMMENT

Hospital Association Election.—At the annual meeting of the American Hospital Association, held in Washington, D. C., September 23 and 24, the following officers were elected: President, Dr. Herbert B. Howard, Boston; vice-presidents, Drs. John N. E. Brown, Toronto, Ont., and Dr. Wayne Smith, St. Louis, and Miss Mary L. Keith, Rochester, N. Y.; secretary, Dr. Warren L. Babcock, Detroit, and treasurer, Mr. Asa Bacon, Chicago. St. Louis was selected as the place for the 1910 meeting.

Society Meeting.—At the annual meeting of the American Electro-Therapeutic Association, held in New York City, September 28-30, the following officers were elected: President, Dr. Thomas D. Crothers, Hartford, Conn.; vice-presidents, Drs. Thomas H. Cannon, Baltimore, Md., and Frank E. Peckham, Providence, R. I.; secretary, Dr. J. Willard Travell, New York City; treasurer, Dr. Richard J. Nunn, Savannah, Ga., and board of trustees, Drs. Charles R. Dickson, Toronto, Ont.; Morris W. Brinkmann, New York City; Herbert F. Pitcher, Haverhill, Mass.; Francis B. Bishop, Washington, D. C.; Edward C. Titus, New York City; Fred H. Morse, Boston, Mass. The next annual meeting will be held in Saratoga in September, 1910.

Conference on Pellagra.—The National Conference on Pellagra will be held in Columbia, S. C., November 3 and 4, under the auspices of the State Board of Health of South Carolina. Physicians and sanitarians are cordially invited to unite with the local profession in the study of the disease. Although the malady is of comparative recent recognition in this country, it already has been reported from seventeen states and is assuming the proportions of a national public health problem. The conference will include not only addresses, papers and discussions, but a number of clinical cases will be presented, thus affording the profession an opportunity for study of the disease. More detailed information may be obtained on application to Dr. Charles F. Williams, Charleston, secretary of the board, and state health officer.

Vital Statistics of Cuba.—Dr. Matias Duque, Havana, Secretary of Sanitation and Charities of Cuba, in his report for August, gives the following report of vital statistics of Cuba for May: The number of deaths registered was 2,398, equivalent to an annual rate of 12.95 per 1,000. An increase was observed in the following diseases: Infantile diarrhea, circulatory diseases, meningitis, cerebral congestion and hemorrhage, tetanus, influenza and cirrhosis of the liver. A decrease was noted in tuberculosis, acute bronchitis, bronchopneumonia, and pneumonia, cancer, nephritis and typhoid fever. Of the decedents 740 were under 1 year of age, 275 from 1 to 5 years of age, and 1,383 from 5 to 8 years of age; 1,617 were white and 781 colored. During the month 6,732 births were reported.

Health of the Philippines.—In the report of the Bureau of Health for the Philippine Islands for the quarter ended June 30, Dr. Victor G. Heiser, director of health, notes the completion of the first collection of lepers from every province of the island, excepting Moro Province. During the quarter, 685 lepers were collected and transferred to Culion. The conditions at Culion have undergone a change for the better, due to improvement in environment and the experiment that has been made on some patients by the Chaulmoogra oil treatment. The investigation into the typical town with special reference to the presence of intestinal parasites, shows that about 10 per cent. of the deaths were from uncinariasis and about 95 per cent. from some intestinal parasite. The death rate for Manila for the quarter was at the annual rate of 29.55 per 1,000, the lowest rate recorded, with one exception, since American occupation. A number of buildings of the Philippine General Hospital, for which appropriation was made last year, are now actually under roof. The legislature has decided that the institution shall be a division of the bureau of health, and it will be managed and known as the Philippine General Hospital Division of that bureau.

Mississippi Valley Medical Association.—Extensive preparations are being made by the St. Louis Medical Society of Missouri and the physicians of St. Louis for the entertainment of the members of the Mississippi Valley Medical Association which meets in that city October 12-14. The municipal boat has been offered by the health officer and mayor for a visit to the city water works and a trip along the water front of the city. Several hundred seats have been secured at vaudeville theaters for one evening. An automobile ride has been arranged for the ladies accompanying the members, and many other functions are in process of arrangement. The subject of the symposium is to be "Exophthalmic Goiter," which will be participated in by Drs. S. P. Beebe, New York City; George W. Crile, Cleveland, Julius H. Jacobson, Toledo; Allen B. Kanavel, Lewis J. Pollock, Albert J. Ochsner and Arthur R. Elliott, Chicago, and Herman Tuholske, St. Louis. Among other important and interesting topics for discussion are "Pellagra," on which papers will be read by Passed Assistant Surgeon Claude H. Lavinder, U. S. P. H. and M.-H. Service, and Dr. Joseph J. Watson, Columbia, S. C., with exhibition of patients and "Uncinariasis," on which a paper will be presented by Dr. Charles Wardell Stiles, Washington, D. C., chief of the hygienic laboratory, U. S. P. H. and M.-H. Service.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Sept. 25, 1909.

Precautions Against the Importation of Cholera from Holland

Elaborate precautions have been taken against the importation of cholera from the continent. All vessels coming from Rotterdam are medically inspected at Gravesend and no passengers are allowed to land until their addresses of destination have been given. The vessels which convey large numbers of passengers are fitted with wireless telegraphy apparatus and messages will be sent to the health officer of the port of London should any illness of the nature of cholera arise during the voyage. While in port the vessels are inspected daily and all their refuse is burnt. No drinking water will be taken on board at Hamburg and no water will be carried in the ballast tanks. While the vessels are in port at Rotterdam their decks are not to be washed with river water. If the outbreak extends to other parts of Holland from Rotterdam all the Dutch ports may be declared infected; arrangements have already been made for dealing with vessels ariving from Flushing. Vessels arriving from St. Petersburg are subjected to special supervision and many passengers arriving with insufficient addresses have been detained on board for inquiries. A Russian captain who allowed some detained passengers to land has been fined. Quarantine has been abolished in this country and a system of medical inspection and supervision of persons arriving from infected ports has been substituted.

Socialization of the Medical Profession

In Great Britain, as in all civilized communities, great development is taking place in the control of the state over public health and the medical profession is becoming much concerned as to the effect of the rapid changes on its interests. Recently the government appointed a commission to inquire into the working of the poor-laws, which has resulted in a most important report foreshadowing revolutionary changes in the poor-law system. As a large part of poor-law relief consists in medical treatment and a majority of the physicians in rural districts hold poor-law appointments and clubs, the profession is deeply concerned. The clubs are a form of contract practice; the members principally belong to the working class and make a small annual payment—about $1—which insures them medical advice and medicine during illness. Most physicians are glad to get these appointments, as they bring in a fixed income, unlike the income derived from private practice, which depends on a varying amount of illness and varying ability and willingness to pay. When the physician also holds a poor-law appointment, for which he always receives a fixed stipend, he is only too glad that the agricultural laborers should join his club, for otherwise they would probably go on the parish during illness and he would have to attend them without any additional payment. Now the report of the poor-law commission foreshadows great changes—a more extensive system of free medical relief by the state, a vast system of contract practice, an unprecedented restriction of private practice, constituting indeed a veritable socialization of the medical profession. Curiously, though, the medical profession is in politics very conservative, it has for many years been unconsciously a force driving in the socialistic direction. Public health legislation has been created and extended largely as a consequence of its advice and demands. The system of free and compulsory public education, adopted in its complete form only in recent years, has involved another socialistic consequence for which the profession is largely responsible. The folly of compelling the diseased or underfed child of the artisan to attend school for instruction which his physical condition renders him unfit to receive soon became apparent. The very conservative London county council, which came into power entirely on the anti-socialistic cry, has been driven to provide free meals for necessitous children. Now the problem is how to deal with the various ailments, such as ear disease, adenoids, defective vision, etc., which interfere with education. Two propositions have been discussed—to establish school clinics under paid medical officers for the treatment of the children, or by making a grant to arrange with the hospitals for treatment of the children. As the cost of the former would be enormous, the council has decided on the latter course and has already made arrangements with some of the hospitals. But the British Medical Association, which may be taken to represent the views of the medical profession as a whole, has condemned this proposal after a discussion at the recent annual meeting. The association characterized the proposal as an abuse of the voluntary charity of hospitals which were never intended for the purpose of assisting the state to do its duty, and also as very inadequate, for the work to be done is much greater than the hospitals could undertake in addition to their present duties. It might be said in reply, however, that most of the children belong to the very class which it is the duty of hospitals to assist. If the school clinics be established this will be another great step in the socialization of the profession, for the children who attend the government schools comprise the classes ranging from the very poor to those of the skilled artisan and the small shopkeeper—classes on which most of the profession depend. Further, it is only a short step from the free treatment of these children to the free treatment of their parents.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Sept. 22, 1909.

Mr. Harriman's Death and the Vienna Medical School

The news of the death of the American railroad magnate, who for some time was under the care of one of our best-esteemed professors in Vienna, has caused some unpleasant discussions in the papers. The charges of wrong diagnosis hurled at the Vienna physicians by some transatlantic journals have prompted the physician who was treating Mr. Harriman here to answer publicly. He asserted that the diagnosis (inoperable cancer of the stomach) was indubitable when he saw the millionaire the first time. It was important to keep the knowledge of the true state of things from the unhappy man; but the American physicians accompanying Mr. Harriman were fully instructed here, if they needed any instruction at all. Mr. Harriman was sent, on the advice of the Vienna physician, to a diagnostic sanatorium near Munich. This again was complained of by the Austrian papers as being unfair to the Austrian sanatoriums, which could solve the question "cancer or no cancer" equally well. The reason was given that the physician, coming from Germany, still adhered to German places. Anyhow, the entire discussion was disgusting and proved once more the truth of the old principle: "The less one speaks of his patients to laymen, the better."

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Sept. 16, 1909.

Overcrowding of the Medical Profession in Germany

The unfavorable economic situation of the medical profession in Germany is emphasized by new statistics in which the disproportionately greater growth of the medical profession as compared with the population since the year 1885 is exhibited. While the population of the German Empire from 1885 to 1907 increased somewhat more than 32 per cent., the number of licensed German physicians increased more than 102 per cent. (in 1885, 15,764; in 1907, 31,864). In 1885 there was one physician for 2,963 inhabitants; in 1907 one to only 1,973—a proportionate increase three times as great as that of the population. To this must be added the fact that through the social legislation the number of patients available for private practice has been extraordinarily limited. In 1885, 4,294,173 persons were insured against illness; in 1907, on the other hand, the number was 11,721,796.

Personal

Prof. H. Kossel, director of the hygienic institute at Giessen, has received a call to Heidelberg in the same capacity, and will move thither in April, 1910. As is well known, his elder brother, the distinguished physiologist, Prof. A. Kossel, is employed at the same university.

September 2, Prof. V. Hensen, the well-known physiologist at Kiel, celebrated the semicentennial of his doctorate.

As a result of a fall, Professor Jaffé, chief surgeon of the city hospital at Posen, died September 2.

September 5, Dr. Agnes Hacker, one of the oldest and most noted women physicians, died here in Berlin. Among other positions, she held the presidency of the association for establishing a woman's hospital in Berlin.

Schools for the Deaf

At the Budapest congress, Professor Hartmann, the head of a department of the Berlin Rudolf Virchow Hospital, gave an address on schools for the deaf. Hartmann learned by investigation that there is a not inconsiderable number of children in the public schools who remained for years in the lowest classes on account of a pronounced difficulty of hearing, are regarded as feeble-minded, and are retarded in their intellectual development, and he succeeded seven years ago in having established by the support of the city authorities of Berlin a special course of instruction for children with marked difficulty of hearing. At present there are in Berlin 17 classes for the partially deaf. Experienced instructors of the dumb, each of whom has charge of only ten children, act as teachers. The principals of the schools send the children who, on account of deafness, are not making progress, for investigation, accompanied by the teacher. In the presence of the director of the school for the deaf, the children are individually examined. In many cases it is ascertained that the deafness depends on a disease of the ear that may be improved or cured. Among the children received 28 per cent. were still affected with suppuration of the middle ear and 52 per cent. with growths in the nasopharynx. By determining the children's power of hearing it has been shown that many, in spite of a high grade of dulness of hearing, were still capable of profiting by the ordinary instruction. The degree of the power of hearing, therefore, is not alone sufficient to decide as to admission into the schools for the deaf. A very important factor is the ability of the child to learn. A great injustice would be done to those hard of hearing if they were classed with the feeble-minded. Furthermore, the deaf must be completely separated from the dumb. The observations made at the examination for admission and at later examinations, showing that a considerable number of the affections of the ear are amenable to treatment, indicate that there is an urgent demand for the examination of the deaf by a specialist on their admission into the school.

The Campaign Against Tuberculosis

The city of Charlottenburg has acquired a large tract of woodland in the neighborhood of Berlin as a site for a hospital for the treatment of patients with advanced tuberculosis. In this institution pulmonary invalids are to be received, whose removal from their homes is necessary in the interest of the public health. If possible, the patients are to remain in the hospital as long as they live. In addition, mild cases of lung diseases are to be received, especially such as are fit for the sanatoriums but cannot be admitted for lack of room, and also such as have been discharged from the sanatoriums but still need supervision. Two hundred beds are provided with the possibility of expansion to 300 beds. After the erection of this new tuberculosis hospital only such cases of consumption are to be received in the Charlottenburg city hospital as must be taken in on account of sudden severe illness or those that are temporarily or permanently unfit to be moved. By this plan the city of Charlottenburg is carrying out the suggestion of Koch and other authors to render harmless by permanent confinement in a hospital such advanced cases as cannot be isolated in their homes so as not to endanger their healthy neighbors. The success of the campaign against tuberculosis in Germany in late years is shown by the following recently published statistics on deaths from tuberculosis in 350 cities of the German empire with 15,000 and more inhabitants:

Deaths from pulmonary tuberculosis:
In 1899, 22.6 per 10,000 inhabitants living.
In 1904, 19.3 per 10,000 inhabitants living.
Deaths from tuberculosis in general:
In 1905, 22.3 per 10,000 living.
In 1908, 19.2 per 10,000 living.

The question of institutions for the care of pulmonary invalids was taken up at the annual meeting of the German Public Health Association *(Deutsches Verein für öffentliche Gesundheitspflege)* a few weeks ago. No new points were made in this discussion, as, in general, the whole tuberculosis question has temporarily fallen into a rut.

The Significance of the Trachoma Corpuscles

The etiologic signficance of the trachoma corpuscles, like that of the *Spirochæta pallida*, was considerably shaken at the Budapest congress. As is well known, Greeff and von Prowazek-Halberstädter have found peculiar corpuscles in the conjunctivas of trachoma patients, to which they attribute an etiologic as well as diagnostic importance. Prof. B. Heymann reported investigations which he had made in the Breslau Hygienic Laboratory, under the direction of Professor Pfeiffer, in which he found these corpuscles in a considerable number of other conjunctival diseases. Of 9 cases 5 were fresh trachoma lesions and 4 were cases of gonorrheal ophthalmia neonatorum. Heymann, in his article recently published in the *Deutsche medizinische Wochenschrift*, comes to the conclusion that it is not practicable to assert that the corpuscles of Prowazek are specific for trachoma, so long as we have no means of differentiation between them and the corpuscles found in gonorrhea, and that the Prowazek corpuscles are of diagnostic value only when all suspicion of gonorrhea is excluded. But even if these structures are specific for trachoma, no conclusion as to their etiologic relation to that disease should be drawn.

Epidemics of Poliomyelitis

Epidemics of poliomyelitis like those in Sweden in 1905 and last year in Austria have broken out in several places in Germany within a few weeks. Such an epidemic was first reported from Hamburg and Schleswig-Holstein. Lately cases have occurred in the Rhine country and Westphalia. Now an epidemic is prevalent also in the province of Brandenburg and in Hesse. It affects young children almost exclusively, in whom paraplegias, hemiplegias and monoplegias are observed. In one case a superior polioencephalitis also occurred. By an order of the ministry of education (*Kultusministerium*) Professor Krause, director of the policlinic at Bonn, was sent to Westphalia to investigate the cause and extent of the disease.

Sale of Medical Practice

By a decision of our highest court, the German Imperial Court (*Deutsches Reichsgericht*), a contract for the sale of a physician's practice is opposed to good morals and therefore invalid. A short time ago the Swiss Federal Court (*Schweizer Bundesgericht*) reached an opposite decision. The Swiss decision is to the effect that the disposal of a physician's practice cannot be regarded as illegal, but a physician who has paid a definite price for a practice cannot later dispute the contract on the ground that it is an unethical transaction. To be sure, the physician has ideal duties to perform toward his clientele, but, on the other hand, the calling of the physician has its material side, and these material interests, like those of other trades, may become the subject of a contract. Just as no one has a right to complain of the physician because he charges a fee for his services, so no objection ought to be made if he accepts a price from his successor for his introduction and delivery of his practice.

BUDAPEST LETTER

(From Our Special Correspondent)

Budapest, Sept. 10, 1909.

[An account of the scientific proceedings of the Congress will be found in the Department of Society Proceedings.]

The Political Incubus

Looking back over a number of international scientific congresses I can hardly remember a congress at which, as to-day at Budapest, the atmosphere was so heavily charged with political considerations. There was a good deal of politics at Washington last year at the Tuberculosis Congress, and, strange to say, the fight was much the same. Of course I am fully aware that 90, I hope 99 out of every 100 medical men who read these lines will exclaim that science knows no frontier, that science is not political, that science in the service of humanity seeks only for truth. In 1889, the Paris Universal Exhibition and some of the scientific international congresses were partly boycotted because these were held in celebration of the centenary of the great French revolution. Nevertheless, in the great hall of the Paris Sorbonne, before some three thousand representatives of the science and art of healing, Pasteur and Lister met face to face on the platform and then, with one common accord, embraced. That one thrilling moment was worth all the politics that have ever been spoken or written; the governments had sought to boycott the French nation and its government, but the greatest benefactors of the human race embraced.

Are Government Delegates Impartial?

It is unfortunately an actual fact that it is impossible to keep politics completely out of these congresses. There are, however, two sorts of politics; one which has a legitimate right of entry and the other about which not so much as a whisper should be heard. Of the former, I spoke at some length in my last letter. It is the politics of social reform. Nothing will prevent medical men, hygienists and chemists from declaring that we must have pure air, pure water and unadulterated food. Yet how many political fights have taken place to secure such legislation as we possess, which purports to provide these fundamental necessities of existence! Indirectly all scientific congresses must deal with politics of this description. Indeed, what would be the use of proclaiming the basic principles on which health is to be preserved if nothing practical is to be done to ensure their application?

War and the Americans at the Madrid Congress

There are also acute political situations that arise at the great international congresses of medicine and the allied sciences that cannot possibly be avoided, at least so far as the members of the congress themselves are concerned. One of the most exciting which I have witnessed was at Madrid where the International Congress of Hygiene and Demography met just at the very moment when the Cuban war broke out between the United States and Spain. In the very heart of Madrid, close to the *Puerto del Sol*, an American insurance company possessed a very fine building which it had thought fit to decorate with American eagles carved in stone. One of these spread its wings in a particularly aggressive manner, so some excited Spanish patriots went up and hacked at the sculpture till it fell down with a crash into the street below. But it so happened that, in its fall, the American eagle struck the wooden staff of a Spanish flag and down came the flag as well as the bird. For so superstitious a people as the Spaniards this was an evil omen. What, however, was my concern to observe immediately after this incident, a group of American army and navy surgeons strolling through this very neighborhood in full uniform. To the honor of the Spanish populace be it said, not a stone was thrown, not a threat or an insult was proffered, a dignified silence was maintained, thus showing once more that the poorest classes in Spain can set the world an example in matters of dignity and courtesy. This incident, I trust, will be remembered; and, when this self-same congress meets next year in the United States the Spanish delegates will be made to feel that their American hosts can appreciate how the American delegates were treated in Madrid under very difficult, trying and painful circumstances. Though war was declared before the congress was over not a single American met with any rudeness at the hands of the Spanish.

War Dangers and the Budapest Congress

At the Budapest congress, if we have not had war we have had such menacing rumors of war that, at one moment it was very doubtful indeed whether the congress would be held. Undoubtedly, if the present political situation could have been foretold, three years ago at Lisbon, no one with any sense of prudence would have accepted the Budapest invitation. But really we who voted for Budapest at Lisbon in 1906 never dreamed that by 1909 Austria-Hungary would have torn up the treaty of Berlin and taken forcible possession of Bosnia and Herzegovina. For a long time it seemed as if war were inevitable, and though peace has been maintained, what to many would have seemed the most interesting after event of the congress has been spoiled. Just as many medical men went to the Madrid congress because they hoped to visit Andalusia afterward and contemplated the beauties of Seville, the Alcazar and Granada, so others were tempted to Budapest by the hope that, after the Congress, there would be an excursion through the Balkan Peninsula to Constantinople, coming home via Athens. This is exactly what happened in 1894, and well I remember the magnificent receptions we had and the wonders we saw. But nothing of the sort is possible to-day. The result of this trying political situation is that there have been no official excursions. As individuals, of course, members of the Congress could go wherever they liked, paying the ordinary price and guided by the ordinary excursion agencies. But the governments of the countries concerned made no offer, proposed no sort of reception or entertainment. Thus the political situation weighed heavily on the congress and this through no fault or blunder of the congress itself.

Racial Conflicts Within the Congress

The Roumanians, as is well known, for they sent out a circular to all the medical press, boycotted the congress, because Mme. Vlad, the wife of a Roumanian deputy in the Hungarian parliament, was sent to prison for urging Roumanian children to persevere in the study of their mother tongue. It would take much time to discuss this question of languages which is somewhat wide of the mark. There is a great deal to be said on both sides. By order of the emperor, Mme. Vlad was released, and versions differ as to the extent of her offense, if offense there was. But what concerned the congress even more than this incident, though it deprived us of the presence of the medical practitioners from the neighboring state of Roumania, was the circular addressed to all the German physicians attending. It was posted from Vienna and issued by the society for the maintenance of the German nationality in Hungary. The circular commenced by stating that it understood the German delegates to the congress had been invited to a banquet at which the principal host is to be the minister of public worship and public education, Count Apponyi. The circular then abused, in violent language, the minister for practically excluding the German language from the elementary schools and accused him of making liberal speeches abroad while carrying out the most illiberal policy at home. The circular concluded: "We anticipate that we shall appeal with success to the national sense of honor of all Germans when we ask you, one and all, to refuse as one man, this man's invitation. Nevertheless, we are fully convinced that the scientific side of the congress will suffer no injury through such a manly action on your part." Now the awkward thing is that, instead of throwing aside this extravagant manifesto, a large number of German medical men who had accepted the invitation to dinner, swore off at the last moment. Only a few sent lame excuses, several did not even do that much. On the other hand, I would hasten to add that the Germans, after twenty-four hours' reflection, sobered down considerably and many were present the next day at the Park Club where Count Apponyi gave a brilliant reception and supper. This incident shows how largely political questions intrude on scientific congresses. Then we have the Poles. A terrible blow has been struck at them, and this was the doing of the congress itself. In voting for the creation of a permanent commission for the organization of these congresses, the word "nation" was struck out and "state" substituted. Thus the little state of Luxenburg has a member on the commission, but the Polish delegate, who claimed to speak on behalf of 24,000,000 Poles, was ruled out; because, if there is a Polish nationality there is no Polish state. This vote will not fail to encourage the Hungarians who are endeavoring to prevent the separate existence of the Germans, Slovaks, Roumanians, Ruthenians, Croatians and Servians, though together they equal about half the population of Hungary. In this war of races, religions, languages and, at the back of it all, of economic interests, what has the medical profession and what have international medical congresses to say? "Nothing at all," is, of course, the most obvious and certainly the easiest answer. But is it the true answer?

Where a Congress Cannot Be Neutral

The language question does not concern us, but all the week we have been shown institutions connected with education and the medical relief of the poor. Surely the language question is at the foundation of the education question; and if medical men are not to be interested in the general education of the peoples and nations they visit, I am sorry for medical men. Everything that interferes with the mental and physical evolution of man, interests the medical profession. Wherever children are overcrowded and starved in school, whether these schools be religious or secular, there the medical profession is concerned; and how appalling, how deplorable is the state of elementary education in Hungary! Where economic conditions are such that there is not even a sufficient subsistence wage to be earned, there the medical profession is concerned; and in America, something is known of the starvation which has driven so many Hungarians over the Atlantic. The agrarian party, the great landed aristocracy which holds Hungary in its grip, presented to the congress a glowing picture of the progress that has undoubtedly been accomplished. But the true student will look below the surface. A model operating theater at Budapest with an extravagant display of modern and expensive surgical instruments does not mean that throughout the country similar perfection prevails. Nor must a congress allow itself to be utilized as a means of fostering the belief among other nations that the country where its meetings are held is the home of all the virtues and all progress. This, I trust, will not be the aim of the organizers of the next congress of hygiene when it meets in Washington, or the next congress of medicine when it meets in London.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Sept. 16, 1909.

The White Cross Society and Food Adulterations

Two years ago a society called the Universal White Cross Society of Geneva (*Société Universelle de la Croix-Blanche de Genève*) was founded to unify efforts against tuberculosis, cancer, syphilis, epidemic, infectious and parasitic diseases, alcoholism and morphinism, food poisonings, diseases of poverty, etc., made by national and international institutions throughout the entire world, thus affording a permanent bond of union, while leaving each one in absolute internal and local independence. For the purpose of securing international agreements for the repression of adulterations in drinks, foodstuffs and agricultural products, the society organized last year the first International White Cross Congress at Geneva and this year it is organizing a congress which will be held at Paris, October 17-24.

The Geneva congress took up the problem of adulterations from a new point of view. It endeavored to define, not adulterations, but the normal type of each form of foodstuff. In all countries striving to suppress food adulterations legislation has been passed and chemical analysis called on to establish adulteration, regardless of the fact that often an analysis of an adulterated food has no practical value unless compared with an analysis of the clearly defined normal type. The Geneva congress having defined these types, the Paris congress will consider the operations necessary to the manufacture of commercially pure foodstuffs.

The congress will meet under the patronage of the heads of several of the departments of government and will be divided into three sections. The first, presided over by M. Müntz, member of the Academy of Sciences, will be concerned with the technology of food. The second, presided over by Dr. Landouzy, dean of the Paris medical school, will examine from the point of view of hygiene the questions discussed by the first section. The third, presided over by M. Guignard, director of the Superior School of Pharmacy and member of the Academy of Sciences, will be concerned with adulterations of drugs, chemical products and mineral waters.

Night Medical Service at Paris

Apropos of the fact that recently the father of a child who fell sick during the night was unable to find a physician soon enough, some political journals have criticized our night medical service severely. In a general way, however, it may be said that this service is very satisfactory and its workings are sufficiently ingenious to merit description.

This service begins at 10 p. m. and ends, during winter, at 7 a. m., during summer at 6 a. m. Every physician who desires to be placed on this service has himself inscribed on the list of "night physicians." Any one wishing to call a night physician has to address himself to the nearest police station. A police agent then accompanies this person to the residence of the physician, follows the latter to the patient's home, and, the visit being concluded, takes him home again. The service is not free. For each visit the physician receives $2 (10 francs), paid out of the municipal funds. According to the means of the patient, as discovered after inquiry, the administration requires from the patient reimbursement of the physician's fees, or assumes the cost itself.

Obstetric cases are taken care of by midwives, whose fees are $4 (20 francs) for each delivery.

The night medical service has been organized in this way since 1876. Ten years after its organization a night pharmaceutic service was also created. The pharmacists, enrolled at their request, receive 30 cents (1 franc 50 centimes) as a fixed return for each order they fill in addition to reimbursement for the cost of the drugs.

The number of physicians participating in the night medical service at present is about 596; of midwives, about 477; and of pharmacists, about 468. Last year there were 14,000 night medical visits, for which the doctors received $28,000 (140,000 francs). Out of this sum the administration received from the private individuals who required physician's services, only $6,000 (30,000 francs).

New Treatment for Obesity

All the methods of treatment of obesity rest on the double rule of diminishing food and increasing elimination; but chiefly on the former, since most obese persons have depleted nervous systems and are incapable of accomplishing the necessary effort to increase their organic outlay by muscular work. Dr. Bergonié, professor of biologic physics and medical electricity at the Bordeaux medical school, has met the difficulty, obtaining artificially intense muscular activity by causing an alternating electrical current of 8 to 12 volts and of an intensity of 50 milliamperes to pass through the body of the patient with a frequency of 40 to 100 per second. The patient reclines over a large electrode, the other electrode covering the greater portion of the anterior surface of the body. Under these conditions, the passing of the current is absolutely painless. Under the influence of the current all the important muscular masses (thighs, calves, buttocks, back, shoulders) are animated with muscular contractions sufficiently energetic to elevate the body, even when weighted down at the level of the thighs by a weight of 88 pounds (40 kilos) or more.

According to Dr. Bergonié's recent communication to the Academy of Sciences (*Académie des sciences*), and to the French Association for the Advancement of Sciences (*Association française pour l'avancement des sciences*), this treatment will cause a very rapid diminution of the weight of fat, if the patient is careful to maintain his diet at a ratio inferior to that which corresponds to his muscular outlay; it will, moreover, increase strength and resistance to fatigue.

Pharmacology

WATERBURY'S METABOLIZED COD-LIVER OIL COMPOUND

Report of the Council on Pharmacy and Chemistry and Laboratory Contribution on Which It Is Based

The following report has been adopted by the Council and its publication directed.

W. A. PUCKNER, Secretary.

To the Council:—Your committee on pharmacology has read with interest the contribution from the Association's laboratory on Waterbury's Metabolized Cod-Liver Oil Compound. The report shows that misleading and false statements are made in regard to the composition of the product and also that exaggerated and unwarranted claims are made for its therapeutic value. In view of the attempt of the Waterbury Chemical Co. to create a false impression in regard to the therapeutic value of the composition of its product, it is recommended that the following report be adopted and published:

The Council believes that there is a preponderance of evidence to indicate that whatever therapeutic value cod-liver oil has, that value depends chiefly, if not entirely, on its fat (oil). In the opinion of the Council, the word cod-liver oil should not be used in connection with any preparation unless it consists to a large extent (25 per cent. or more) of cod-liver oil. Since Waterbury's Metabolized Cod-Liver Oil Compound contains no appreciable quantity of cod-liver oil, the name is incorrect and misleading, and as a cod-liver oil preparation it is believed to be wholly valueless. The Council has previously voted that Waterbury's Cod-Liver Oil Compound be refused recognition because of conflict with Rules 1 and 6.

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

Waterbury's Metabolized Cod-Liver Oil Compound

W. A. PUCKNER AND L. E. WARREN

A full page advertisement of Waterbury's Metabolized Cod-Liver Oil Compound appeared in the *Iowa Medical Journal*, March 15, 1909, in the form of a letter purporting to give the results of an analysis of the product made for the firm by a Chicago chemist. In this letter-advertisement the chemist states at the outset that the results of his examination "are somewhat at variance with the statements made in THE JOURNAL." These statements he quotes as follows:

> 1. It is a clear liquid and no globules of oil are seen under the microscope It is therefore not an emulsion.
>
> 2 It is of acid reaction when mixed with water and remains clear when strongly acidified. Hence it does not contain a soap, and is not a saponification of fat.
>
> 3 It mixes with water without precipitation, hence, it can not contain more than traces of a fatty acid.

The chemist admits in his letter to the firm that his analyses verify statements 1 and 3, but regarding statement 2 he says: "I find that your preparation is acid in reaction, but when strongly acidified gives a distinct turbidity within 10 minutes and a voluminous precipitate within 1 hour. This precipitate is shown to consist of fatty acids of cod-liver oil, which are thrown down by the splitting of the soaps, on acidifying either with sulphuric or hydrochloric acid." From these results he states that to him it seems that the "preparation does not deserve the statement that it contains no soap, as there is no question whatever of the presence of cod-liver oil."

While in the letter published in this advertisement the chemist claims to have demonstrated the presence in the product of "saponified cod-liver oil" he *omits to mention the quantities* of the soap present. In the article that originally appeared in THE JOURNAL (Oct. 13, 1906), in addition to the three paragraphs quoted by the chemist, the following statements were made:

"By these simple tests a physician is easily able to demonstrate that the preparation does not contain cod-liver oil. It is therefore valueless for the purpose of nutrition for which we give the oil. More careful analysis confirms the results of these tests and shows that it contains no fat or fatty acids (except the merest traces) . . ."

At the time these statements were published in THE JOURNAL, the *St. Paul Medical Journal*, October, 1906, contained an advertisement for Waterbury's Metabolized Cod-Liver Oil Compound, which contained this statement:

> "The only tasteless preparation on the market which contains Cod-Liver Oil in its entirety. The metabolized product is obtained by the action of digestive ferments on pure Cod-Liver Oil."

In the *Ohio Medical Journal* of Feb. 15, 1907, there appeared in the form of an advertisement what purported to be an analysis of Waterbury's Metabolized Cod-Liver Oil Compound by Prof. C. N. Kinney of Drake University. While Professor Kinney made a quantitative analysis of the preparation the quantities were omitted from the analysis as published. A footnote added by the Waterbury Chemical Company called attention to this fact and closed as follows:

"Any physician who is not satisfied with the analysis we will be only too glad to furnish the complete analysis by our representatives."

If this weirdly constructed sentence meant anything, it meant that the complete analysis would be furnished on request. Such requests to the company, however, from various sources failed to elicit the information required nor was the "complete analysis" forthcoming. The inference to be drawn is fairly plain.

In a circular accompanying the product as sold at present, this statement occurs:

WATERBURY'S
METABOLIZED COD LIVER OIL COMPOUND
With Creosote and Guaiacol or Plain

DOES CONTAIN COD LIVER OIL
DOES ALLAY FERMENTATION
DOES AID DIGESTION
DOES ASSIST ASSIMILATION
BUT DOES NOT DISTURB THE STOMACH

As previous examinations disclosed only the merest traces of cod-liver oil in the product while claims were made that it "represents cod-liver oil in its entirety," and in view of the fact, too, that present advertisements emphatically declare that cod-liver oil is present in the preparation as now sold, it was thought best to examine some of the preparation with especial reference to the quantities of fatty acids from cod-liver oil.

The results of the examination, the details of which are given below,[1] are briefly as follows: The total quantity of acids isolated amounted to about 0.3 per cent., and of this amount about two-thirds was *salicylic acid.* Thus it appears from the examination of the specimens bought on the open market that the preparation contains at most but 0.1 per cent. of the fatty acids from cod-liver oil, a totally insignificant quantity.

Notwithstanding the protestations by the manufacturers, in the form of published analyses and circulars, it is seen that the statements published in The Journal, Oct. 13, 1906, p. 1207, are essentially substantiated; it is further evident that the product does not deserve to be designated as a cod-liver oil preparation. To obtain a medicinal dose of cod-liver oil the patient would be compelled to swallow the contents of a bottle of this mixture, and as, the product contains 11 per cent. alcohol the patient who did so would probably experience a degree of exhilaration not referable to cod-liver oil.

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[1] A trade package of Waterbury's Metabolized Cod-Liver Oil Compound was purchased in the open market and examined in the Association laboratory. The product was a pale brownish-yellow, very slightly turbid liquid having an acid reaction and a malt-like odor. The odor was in no way suggestive of cod-liver oil or of cod-liver oil preparations. When strongly acidified with hydrochloric acid no precipitation or increase in turbidity was observable at once as would be the case were soaps present in appreciable amounts. On standing over night the acidified solution gave a flocculent precipitate. On shaking the acidified solution with ether-chloroform mixture and evaporating the solvent, a brownish, partially crystalline residue was obtained, the greater proportion of which appeared by qualitative tests to consist of *salicylic acid.*

Ether-Chloroform-Soluble Matter: A portion was strongly acidified with hydrochloric acid and extracted with an ether-chloroform mixture. The solvent was washed with water, evaporated, the residue dried at 98 C. and weighed; 500 c.c. of the product gave 1.5222 gm. or 0.3044 gm. per 100 c.c. Attempts to separate the salicylic acid quantitatively from the fatty acids by crystallizing the former from hot water were not entirely successful.

Free Fatty Acids—Salicylic Acid: The ether-chloroform-soluble residue was treated with hot water and filtered. The residue on the filter was dissolved in warm alcohol, the solvent evaporated to dryness, the residue treated with hot water to remove salicylic acid, and filtered. The undissolved residue on the filter was dissolved in warm alcohol, filtered and the filtrate evaporated to dryness, the residue dried and weighed as free fatty acid; 500 c.c. gave 0.0362 gm. in the first separation. The first crop of salicylic acid crystals, which separated from the hot water filtrate on cooling, was filtered out, the filtrate evaporated to small bulk and allowed to crystallize a second time. The first and second crops of salicylic acid were united, dried at 60 C., and weighed; 500 c.c. gave a total of 0.8421 gm. salicylic acid, or 0.1684 gm. per 100 c.c. A second yield of fatty acids was obtained from the filtrate from the salicylic acid separation by the process employed for the first, 0.0201 gm. being obtained. Total fatty acids isolated amounted to 0.0566 gm., or 0.011 gm. per 100 c.c. This residue gave the Pettenkoffer test for bile products thus indicating the probable presence in the preparation of traces of products derived from cod-liver oil.

The filtrate, from which the fatty acids and salicylic acid had been separated so far as possible, was evaporated to dryness, the residue dried at 98 C. and weighed. A residue of 0.2595 gm. was obtained. This residue did not give Pettenkoffer's reaction for bile salts. It consisted of salicylic acid, free fatty acids and undetermined substances. Since 0.8421 gm. salicylic acid was separated from the residue or 55.3 per cent. of the total, it follows that not more than 0.6804 gm. or 44.7 per cent. of the initial residue can possibly be free fatty acids, or 0.13 per cent. as calculated on the entire sample. This value is evidently much too high as it includes everything in the initial residue not obtained as crystallized salicylic acid. It was noticed during the examination that whenever a fatty acid residue was dissolved in alcohol a noticeable residue remained which was also insoluble in water. Adding the several residues obtained, 0.8421 gm., 0.0566 gm. and 0.2595 gm., the sum of 1.1582 gm., is obtained. Subtracting the sum from 1.5222 gm., the initial residue, a loss of 0.3640 gm., is noted. As a check on the above the total acids were determined in a sample of 100 c.c. An ether-chloroform soluble residue of 0.330 gm. was obtained.

DR. CURRY CANCER CURE COMPANY

The Exploiters of a Cruel Fraud Put Out of Business by the Postal Authorities

In one of the chapters in *Collier's* "Great American Fraud" series by Mr. Adams, the "cancer cure" quack was shown up.[1] Among the numerous humbugs in this line of business, Dr. G. M. Curry, of Lebanon, Ohio, was apostrophized under the caption, "An Ananias of Quackdom," as follows:

"I don't want to overrate Dr. Curry in his own department of human activity, but he seems to me, on the whole, one of the most eminent all-around liars I have encountered anywhere in Quackdom. According to his own statements, Dr. Curry has discovered not only the germ of cancer, but also a sure cure for it."

This and much more did Mr. Adams have to say about Dr. Curry. Attention was called to the fact that in his enterprise Curry had the support of Lebanon's "best citizens"—the county treasurer, the sheriff, the recorder, the auditor, a judge, two attorneys, and two bankers, to say nothing of several other prominent inhabitants.

Said the élite: "Dr. Curry is no quack. His remedy is no fake. Both are entitled to the fullest confidence of cancer sufferers and Lebanon is proud of his success." Later in the series Mr. Adams told how valiantly the Lebanon newspapers came to the defense of Curry and his cruel fake. Nevertheless, even as long ago as July, 1906, Mr. Adams ventured this opinion: "Dr. Curry *is* a quack. His remedy *is* a fake. And the highly respectable citizens who bolster it are, giving them the benefit of the doubt, the dupes of an arrant swindler." Now, three years later, comes the United State Government in the person of Assistant Attorney-General Goodwin, and says some equally unkind things about the business which Dr. Curry built up. From the report which Mr. Goodwin transmitted to the Postmaster General, we abstract the following:

THE CURRY CANCER CURE COMPANY

This company was engaged in treating, through the mails, patients afflicted with cancer. E. W. Ramsey was its secretary and manager and the advertisements informed prospective patients that their letters might be sent to him if they preferred, in order to insure secrecy. What the company claims for its cure is indicated by the following quotations:

"Cancer cured in 10 days—a discovery that has startled the medical world. I have discovered what the medical world has been looking for, for years. A sure cure for cancer, so sure that it can be absolutely guaranteed. This I do and I can prove. I have cured hundreds of the most horrified cases in from 10 to 20 days after celebrated physicians and surgeons had given up all hope of saving them."

When a victim answered an advertisement, pamphlets and testimonials were sent to him, together with a question blank, on which he was to indicate the symptoms of his disease. In a circular letter the statements were made:

"It certainly gives us pleasure to be able to say to you that we have a positive cure for this, one of the most dreadful diseases that afflicts the human race. We are sending you free the necessary information that will show you how to cure yourself at home in from 10 to 20 days without the aid of a physician or surgeon and at little expense.

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[1] See pages 77 and 116, "Great American Fraud" pamphlet.

"The disease of cancer baffled the skill and science of the medical profession for centuries and was always considered an incurable malady. Now the discovery of the Curry method of curing and removing cancer, root and branch, is considered by many medical men to be one of the most important advancements in medical science of this age. By means of this treatment no trace of the disease is left to propagate any further growths or again endanger the life of the sufferer. We have cured hundreds and hundreds of cases of the most malignant and aggravated form where hope had been all but permanently abandoned by the sufferer and the case about to be pronounced incurable.

"If you faithfully follow our directions this treatment should absolutely cure you, remove all traces of the cancer poison from the blood, and prevent you from either suffering further yourself or transmitting the horrible malady to your descendants and causing untold suffering in future generations."

Attention was called to the fact that it was not necessary to come to the "sanitarium" in order to be cured. The company has "perfected a home treatment, so that you can cure yourself of your cancer just as well right in your own home." As a sample of some of the claims made, we may quote:

LYING CLAIMS

"The most desperate cases successfully treated by the Curry cure."

"The percentage of deaths from cancers which have been treated with the Curry cure is absolutely down to nothing."

"The Curry Cancer Cure has stood the test. The anti-toxin for diphtheria was an- immediate success because it could stand the test."

"If you have a cancer or a suspicious growth on any part of your body act now before it is too late. If your cancer is far advanced you may die from it in a month or in a week. You can not tell what moment will be your last. After you have used the treatment for a day or two and you find that your pains are gradually leaving you, that the cancer is diminishing in size and that the soreness and bleeding is fast disappearing then you will know that death has been cheated and instead of the grave there awaits you more years of health, sunshine and happiness. Then, too, you will realize why the Curry Cure stands foremost among the world's great discoveries."

FOLLOW-UP LETTERS

The victim was fully informed that by answering the questions on the blanks sent him the company would be able to study his case "from the standpoint of successful specialists." If no reply was received to this letter, the company again wrote the prospective patient, urging him to send in the question blank properly filled out, immediately, and impressing him on the danger of delay. If this brought no answer another letter was sent to him telling him that the company had taken a deep-seated interest in his case and felt certain that it could cure him. If a reply was still not forthcoming, another letter was sent, asking the patient to explain the delay and telling him that he probably would have been cured months ago if he had but cast aside prejudice and answered the questions submitted to him.

In those cases in which the question blank was filled out, the company sent the victim a letter in which it stated that it could cure him permanently by its treatment in from ten to twenty days at a cost of $25. If the money was not forthcoming, a series of follow-up letters was sent to the patient, in which it was represented that within twenty days' time from the commencement of treatment, the cancer would be cured absolutely, never to return; that "every fiber, filament and tendril" would be rooted out and that the place where the cancer was would be healed over with healthy skin and all signs and danger of cancer would have disappeared forever.

At its hearing the company submitted samples of the "remedies" by which these marvelous results were purported to be brought about. They were analyzed in the Department of Agriculture and the findings of the department, which were transmitted to the postmaster general, were in part as follows:

THE GOVERNMENT'S LABORATORY REPORT

"The value of the above remedies in the treatment of cancer is summarized as follows:

"Nos. 7, 8, 9, 10 and 18 are simply antiseptic substances useful only in rendering surfaces to which they are applied cleanly and free from outside infection.

"Nos. 19, 21, 24 and 20, 22 and 23 are all also antiseptic and the latter three, in addition, contain opium, which to some extent allays pain of the part to which applied in these cases, the rectal or vaginal passages.

"Nos. 25 and 26 are simply tonic medicines.

"No. 17 is a preparation of opium which deadens the system to the sensibility of pain.

"No. 16, a cocain preparation which relieves pain temporarily by its local paralyzant action on the tissues to which it is applied.

"No. 15, an astringent which may be used in stopping the flow of blood or secretions.

"No. 14, a laxative pill of value in relieving constipation, which is quite likely to be produced by the administration of the opium included in the list of medicines.

"Nos. 12 and 13, merely coverings for holding medicines in place, inactive medicinally.

"Nos. 6 and 10 are simple ointments.

"No. 7, hydrogen peroxid; a cleansing agent.

"No. 5. This preparation was originally thought to be a mild caustic, but has since been found and is now believed to be a non-irritant iodin preparation and cannot be used to destroy any kind of tissue.

"No. 2. Crystallized carbolic acid is a dangerous and pernicious substance in the hands of the layman. It is a corrosive poison and while decidedly a tissue destroyer it acts destructibly both on diseased and healthy tissue and, moreover, is liable to produce gangrene when applied to ulcerated sufaces.

"No. 3. Chromic acid in concentrated solution is well-known as a caustic and is used to some extent as such, but in the weak solution represented it is very doubtful if this result can be accomplished.

"No. 4. Concentrated acetic acid in the strength here represented is a strong escharotic and does destroy tissue, both diseased and healthy, and much care must be exercised in its use.

"No. 1. From the representations made at the hearing it appears that the company depends very largely for results on the preparations known as 'Red Ointment.'

"The analysis suggested that but little caustic effect could be expected and experiments were instituted with a view of confirming or refuting the claims made. The remedy was applied both moist and dry to normal tissues, with the result that after twenty-four hours' application little, if any caustic effect was noticeable. These experiments, therefore, show that this preparation, for which such remarkable claims were made, possesses but little virtue as an agent for the destruction of cancerous growth or tissue.

"In conclusion, this office is of the opinion that the nature of these remedies is such that they can not possibly effect a cure except by the merest chance. They are absolutely worthless for internal cancer. The claims, representations and promises employed in promoting this treatment are false and deceptive."

The Department of Agriculture also made an investigation of its own, and the chief inspector of the Bureau of Chemistry made the following statement regarding the "treatment":

"This treatment is sold as a cure for cancer. The words 'Cancer Cure' in the name of the company itself implies an ability to cure what is generally recognized as an incurable disease. The labels, correspondence, testimonials and other advertising literature of the concern are saturated with the idea that the treatment above described will cure cancer. As a matter of fact there is no drug or combination of drugs known at the present time which can be relied on with any degree of certainty whatever to effect a cure for cancer. The therapeutic effects of the ingredients of the remedies comprising this treatment have long been known to the medical profession, but notwithstanding this fact the best authorities make no claim to the ability to cure cancer by means of drugs."

CONCLUSIONS OF THE GOVERNMENT

The Assistant Attorney-General, in summing up his opinion of the whole matter, says: "The weight of medical authority is to the effect that cancer is a disease, the existence and character of which can only be reliably ascertained by a careful personal examination, and that a positive diagnosis always requires a competent microscopic examination. The Dr. Curry Cancer Cure Company's pretense that they can properly diagnose cases of cancer and prescribe remedies for them without personal examination merely by this correspondence scheme, is without any scientific or proven foundation, and they must well know that it is mere pretense. What is undoubtedly the fact that out of the many cases submitted to them and diagnosed by them as cancer there are some which are not cancer at all, but simply non-malignant sores which in some instances yield to treatment is what affords them a basis on the recovery of such cases to claim that they have cured cancer.

"According to the evidence submitted the medical profession knows of no drug or combination of drugs which can be relied on to cure cancer. That the Dr. Curry Cancer Cure Company has not succeeded where the profession has failed and that they are not honestly endeavoring to cure patients but that their pretensions to have discovered a cure for this disease are false and fraudulent and asserted merely to deceive and defraud suffering humanity, is revealed by the analysis of their medicines and the finding that they are merely ordinary antiseptics, narcotics and caustics.

"I find that this is a scheme for obtaining money through the mails by false and fraudulent pretenses, representations and promises, in violation of Sections 3929 and 4041 of the Revised Statutes, as amended, and recommend that a fraud order be issued against the Dr. Curry Cancer Cure Company and E. W. Ramsey, at Lebanon, Ohio."

The fraud order was issued.

Curious Pharmacologic Action of May-Pop (Passiflora Incarnata)

In perusing the "literature" of some of the fearfully and wonderfully made proprietary mixtures on the market one is uncertain whether the attitude of their manufacturers is "We aim to please" or one of "Heads we win, tails you lose." The uncanny elasticity of pharmacologic action in proprietaries of the type referred to is the cause of this uncertainty. For instance we find that both amenorrhea and menorrhagia are amenable to the same remedy and it is nothing unusual for a nostrum to be both a stimulant and a sedative.

We are reminded of this fact in perusing the "literature" of Daniel's Concentrated Tincture of Passiflora Incarnata, a proprietary marketed by J. B. Daniel, Atlanta, Ga. According to the booklet this remedy is to be employed in both convulsions and paralysis. Unlike many nostrums the proprietor claims to base his recommendations on exact pharmacologic investigations of which he produces two brands; the doubting physician pays his money and takes his choice. If he has a case of convulsion let him consult the laboratory report of Dr. Isaac Ott, who tells us that "in Passiflora Incarnata we have a drug of considerable power producing a depressant action on the reflex activity of the spinal cord." If, on the other hand, the physician has a case of paralysis to deal with he should turn over the page and take the authority of the certificate of the "Iamatological Bureau" which states, "it notably exalts the reflex function of the spinal cord."

Let the doctor in search of a hypnotic that is not a hypnotic and a powerful remedy that "does not endanger the heart" take his choice between these two contradictory actions. It is all the same to the nostrum maker so long as the doctor uses his "only reliable preparation of May-Pop" for all cases, every time and all the time.

But, seriously, isn't it about time that such opera bouffe methods of presenting medicinal agents to physicians should be resented by the medical profession? Disease itself is a serious thing and the treatment of disease is no trifling matter. The attempt to induce physicians to use a preparation by investing it with incongruously contradictory virtues neither flatters the intelligence of the medical profession nor invests pharmacy with any degree of dignity.

Correspondence

Notes on a Trip to South Africa

To the Editor:—Not the least of the many discussions relating to a better and more highly developed physique in man, has been one which has universally created a feeling of horror—I allude to the prevention of the continuation of life in a child deformed mentally or physically after its birth. It is not uncommon knowledge that the perfect development of the Zulus of Natal, and their superior mental capacity have far overtopped that of other native tribes of South Africa. Years before the advent of the white man in Natal it was a tribal dictate that infants with deformity or malformation of head or body should be destroyed immediately after birth. Students of heredity and of men will see the reason for the physical and mental development of the Zulu. A child born of healthy parents, with a perfect physical development, cannot but gain the mastery over the child born in tribes which do not observe any of the laws of the Zulus. With a healthy body and an equally healthy mind, it is natural that the Zulu should have sought healthy surroundings and follow Hygeia as he has done. Compare the Zulus of sixty and more years ago with those of to-day since the laws of Great Britain have suppressed the laws of the Zulus themselves. From a sober, moral and industrious race, they are hardly superior to-day to the other tribes. Their spirit of independence and consciousness of superiority is rapidly waning.

The question I have referred to I have not mentioned with a view to discussion, but simply because its significance struck me forcibly on a recent visit to South Africa. As native or tribal laws differ, so also do their customs. The contrast between Zulu and Bushman is indeed great, and contrary to the ill opinion we hold of the virtues of the Bushman, we cannot but wonder at the original meaning of the so-called Hottentot apron, really occurring in the Bushman and not in the Hottentots. The Hottentot, in civilization, is midway between a Kaffir and a Bushman. In a remarkable collection in the Cape Town Museum of life-size casts of several tribes of South Africa, there is a beautiful specimen of a Bushman woman in which the apron appears to the length of 2 inches or slightly more. The apron is the elongation of the labia minora. Just what means were employed to elongate it, so as to form a protection against any forcible entrance to the vagina, is not agreed on by authorities. Very little about it is known to-day, but it has been suggested to me by Mr. Lightfoot of the Cape Town Museum that weights of some kind were constantly worn in the younger years of Bushman maidens, instead of the stretching by pulling on the labia during the life of the woman.

Medical men who are leaning toward "healing by suggestion" may be interested in knowing that the art was practised in South Africa among the natives long before Bartholomew Diaz and Vasco da Gama discovered Southern Africa. Some years ago I had the opportunity of witnessing a native "doctor" endeavoring, apparently much against the will and consciousness of the patient, to suggest or persuade him that the ill and pain present were really misconceived and outside the body, and that he was well. The constant repetition by the "doctor" of the argument must through its monotony of sound put the patient to sleep and perhaps temporarily improve him.

Among the thousands of Kaffirs employed in the mines, the prevalence of syphilis is surprising. An institution of the government, similar to a quarantine smallpox station, was established to deal, apparently, with nothing else than syphilis. Not so very many years ago, syphilis was practically unknown among the natives of South Africa. Miners' phthisis is also increasing, and among the white miners it can almost be called a common disease. By far the majority of the inmates of that remarkable asylum for leprosy, near Pretoria, and also of that at Robbens Island, Cape Colony, are Kaffirs. Insanity is likewise common among the Kaffirs, especially those who are near large cities.

Ills which assail the Kaffir mentally and physically are numerous, and the old question of the moral and ethical value of civilization is again brought to mind.

A not uncommon curiosity among the natives is an affection in which the skin has a piebald appearance. The areas in which no pigment occurs change, so that the native presents a skin that is constantly adding or losing its pigment.

Blackwater fever, miners' anemia (ankylostomiasis), dysentery, malaria, smallpox and inflammatory affections of the eyes due to the pollen of blackthorn trees during the spring, are among some of the diseases which have a medical interest.

In conclusion, let me attempt to interest medical men in South Africa. Instead of hunting expeditions, have scientific expeditions for the study of these numerous tropical diseases which are rare in other parts of the world. South Africa contains more material than can be found anywhere else, and which will prove of undoubted value to the profession here.

James A. Honey, M.D., Cambridge, Mass.

Method of Increasing the Efficiency and Life of the Dry-Cell Battery

To the Editor:—Some years ago I began to seek for some method of increasing the life and efficiency of dry cells. I at first employed the usual methods (potassium permanganate and sal ammoniac solutions, etc.). These proving unsatisfactory, I at last hit on the following simple but cheap and satisfactory method:

When my dry battery has become exhausted, I take an ordinary $\frac{3}{8}$-inch drill-bit of sufficient length and drill a hole as near as possible to the carbon and between the carbon and the outside zinc covering. This hole should reach to within 1 inch of the bottom of the cell, beginning, of course, at the top or sealed part of the battery. I shake out of the cell all loose dust and particles, and place in this hole a $1\frac{1}{2}$-ounce glass funnel, having a stem not less than $1\frac{1}{2}$ inches in length, and of sufficient thickness to fit snugly, especially at the upper part of hole already prepared. This will prevent regurgitation of liquids to outside top of cell. Having secured the funnel firmly in the cell, I pour into it until three-fourths full (about an ounce) of chemically pure hydrochloric acid. This will start an immediate reaction and hydrogen and air bubbles containing particles of contents of the cell will regurgitate through the funnel and contents. It will require from eight to twenty-four hours for this reaction to be completed and the hydrochloric acid absorbed. Owing to a tendency for the small funnel to become clogged, it is necessary from time to time to pass a slender wire down through the funnel neck and hole in the cell. After absorption of the acid, I pour water in the funnel just as long as the cell will take it. When the cell has become thoroughly saturated inside, I seal it carefully with ordinary sealing-wax, set aside for twenty-four to forty-eight hours or longer, and test the cell for battery power. If the work has been carefully done, the results will not be disappointing.

I have in use in my office a battery of dry cells whose first efficiency was a life of three months, after which I treated them as above, and they have been in more or less constant use for a little over ten months. At present there is no sign of weakening or deterioration, and their regenerating ability is remarkable. How long they will last I am not prepared to say. They have exceeded my most ardent expectations. I have ceased discarding my old dry cells, and consider them more valuable after a renewal of this kind than when fresh from the hands of the manufacturer.

Edward M. Hanson, Keokuk, Iowa.

A Convenient Source of Carbon Dioxid Snow

To the Editor:—The treatment of certain dermatoses by carbon dioxid snow—a substitute originally suggested by Dr. Pusey for the less easily obtainable and less easily managed "liquid air"—has now an established place in the armamentarium of the dermatologist. Its common source is from the large cylinder of carbon dioxid furnished to soda-water fountains. This cylinder, although probably the cheapest source, is large, bulky, cumbersome and unsightly for office use, besides being somewhat clumsy for handling. I have recently found a convenient substitute for this; it is the small cylinder containing liquefied carbon dioxid sold for the inflation of a single automobile tire. It contains sufficient liquefied gas for a large tire—a sufficient quantity, as I have found, to produce enough "snow" for one average dermatologic application. This cylinder is about one inch in diameter and twelve inches in length; it costs $1, and when empty is returnable, being credited to the amount of 20 cents toward a new tube. Its manipulation, for either tire inflation or "snow"-making, requires a handle with valve and small hose attachment, which costs $2; this can, of course, be used indefinitely.

Henry W. Stelwagon, Philadelphia.

An Envelope Powder Shaker

To the Editor:—Many physicians and surgeons find it difficult to apply antiseptic powders to wounds properly. A powder blower that will apply the powder evenly, lightly and not wastefully, over the edges of wounds has not yet been offered to the public. Some surgeons use a pledget of cotton with dressing forceps, but this is unsatisfactory as it requires that the powder be poured out on a paper. I have used an envelope for a number of years with much satisfaction and a great saving of powder. It is used as follows: Place 15 or 20 grains of any powder, the finer the better, in an ordinary druggists' prescription envelope, which should then be sealed tightly and the tip of one of the corners torn off. Now take up the envelope between the thumb and fingers, gently press the sides so as to make a little air space and tap on the center of it with the tip of the index finger. This operation will blow out a very fine cloud of the powder and by holding it close to the wound it will take but a few taps with the finger to cover the wound with the finest coating possible. When a corner has been thus used it may, by using the handle of a knife, be turned down tight, and the next time another corner may be torn off, as the crimped corner interferes with the ejection of the powder. I have dressed many large wounds several times without using more than 15 grains of powder and one envelope.

S. A. Newman, M.D., Cassville, Mo.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

HISTORY OF SEROTHERAPY

To the Editor:—I desire to obtain a history of serotherapy. Can you direct me to such a publication?

W. S. Devine, Marshalltown, Iowa.

Answer.—Dr. Ludvig Hopf's "Immunität und Immunisirung: Eine medicinisch-historische Studie," 95 pages, Tübingen, Franz Pietzcker, 1902, gives an excellent historical account of the theories of infection and immunity, including the development of serotherapy up to that date. The more recent developments are scattered through the literature. Wright's "Studies on Immunization," Constable, London, includes the main papers published by Wright on the opsonins, and contains about 500 pages. Sauerbeck's "Neue Tatsachen und Theorien in der Immunitätsforschung," published in 1907 in the Lubarsch-Ostertag Ergebnisse, and also as a separate monograph, by J. F. Bergmann, Wiesbaden, gives a thorough review particularly of the opsonins and aggressins (over 300 pages).

INJECTION TREATMENT FOR HEMORRHOIDS

To the Editor:—Kindly give list of works on the injection treatment for hemorrhoids.

L. A. W.

Answer.—We know of no special book on the injection treatment of hemorrhoids, but it is described in the standard works on rectal diseases, among which may be mentioned:

Agnew: Rectal Diseases, L. S. Matthews & Co., 2623 Olive St., St. Louis, Mo.
Allingham: Diseases of the Rectum, William Wood & Co., 51 Fifth Ave., New York.
Andrews: Rectal and Anal Surgery, Chicago Medical Book Co., Honoré and Congress Sts., Chicago, Ill.
Ball: Diseases of Rectum and Anus, W. T. Keener & Co., 90 Wabash Ave., Chicago, Ill. (This firm has gone out of business.)
Gant: Diseases of the Rectum and Anus. E. A. Davis Co., 1914 Cherry St., Philadelphia, Pa.
Goodsall and Miles: Diseases of the Anus and Rectum, Longmans, Greene & Co., 91-93 Fifth Ave., New York.
Kelsey: Surgery of the Rectum, William Wood & Co., 51 Fifth Ave., New York.
Mason: Office Treatment of Rectal Diseases. L. S. Matthews & Co., 2623 Olive St., St. Louis, Mo.
Mathews: Diseases of the Rectum, Etc., D. Appleton & Co., 436 Fifth Ave., New York.
Tuttle: Diseases of the Rectum, D. Appleton & Co., 436 Fifth Ave., New York.
Wallis: Surgery of Rectum, William Wood & Co., 51 Fifth Ave., New York.

These books can be obtained through medical booksellers generally.

Miscellany

SIMPLE REFRACTION FOR FAMILY PHYSICIANS

Its Promotion During 1908-09*

LEARTUS CONNOR, A.B., M.D.
DETROIT, MICH.

At its 1908 meeting the Michigan State Medical Society publicly initiated a movement "to qualify family physicians for the refractive work now in the hands of opticians." This paper aims to sketch briefly our progress.

By some oversight our medical colleges have rarely taught their students practical refraction, while they inoculated them with the idea that good refractive work was possible only to a specialist. Meantime, the science and art of refraction reached a high standard of perfection in the hands of specialists, working outside the colleges. Naturally, this standard was impossible to the average student or family physician, and a course adapted to their needs has not found its way into college curriculums. The course must be such that the student can master it without interfering with his other courses, and the family doctor practice it while caring for the other disorders of his patients. It will certainly include simple refraction, as then, by the aid of the specialist, in complicated cases, the refractive needs of all the people will be fully met.

Opticians began the practice of refraction, because ophthalmologists were too widely scattered and too high-priced; the family doctors were ignorant of simple refractive work and afraid to attempt its mastery. By organization and business push opticians so impressed the people to whom they prescribed and sold spectacles that sixteen state legislatures have granted them special rights, stolen from the medical acts, to practice that ophthalmology which family physicians should be practicing. They showed the legislatures that our system of medical education failed to provide physicians able to determine the refraction of the people's eyes. Our movement aims to promote such training of the family physician that he with the ophthalmologist will be adequate to care for the refractive needs of the people, and so to obviate the present necessity for optometrists.

The great obstacle to this movement is the wide-spread conviction that family physicians cannot master, much less practice, simple refraction. Yet it is in evidence that laymen have learned and do successfully practice this part of medicine; surely the physician's training should enable him to outstrip the layman in this competitive race, and it would if he made equal effort. Further, the evidence is overwhelming that family physicians have mastered simple refraction and are now successfully practicing it in connection with their other work. In my possession are many letters establishing this fact. Time admits the reading of but two, and these only in abstract.

The first letter is from Dr. Gerald Edmunds of Honor, Mich., and is dated May 2, 1909. He says:

"I think it may interest you to know that for some time I have tried to fit myself for 'general practice.' I graduated from the Chicago College of Physicians and Surgeons in 1892, and practiced in Chicago about eight years, when I located in this thriving little town. I used to have dreams of special practice as an 'unlimited practitioner,' but when I located in a small place, I found my time so occupied that it was all I could do to make a better practitioner of myself. After reading your article on the 'neglected patches' in the field of medical practice, I came to the conclusion that I had long neglected to fill the wants of my families, because I was not equipped to correct common defects of vision; besides, my son was troubled with a simple refractive error which I was incompetent to correct. So I bought Theobald on the Eye and Parker on Refraction (I already had Noyes), and spent my spare time in studying. I then bought from the Johnson Optical Company a small trial case and some fitting frames and went to work. I fitted my first patient the latter part of November, 1908, and since have determined the refraction in about thirty-five moderately simple cases, without any effort to push this as a specialty—simply having the paraphernalia for refraction about the office brought this work. I had formerly referred such cases to persons at a distance, much to the inconvenience of my patients. After this experience I am satisfied that any physician, with a reasonable amount of push, can add to his income, in a legitimate way, quite a few dollars during the year and benefit the public a great deal.

"I think that most physicians dislike the idea of being general practitioners, and feel that unless they at least claim a specialty the public will not think they amount to much. I am proud of being a general practitioner, and think that there is a great field for 'specializing' along the line of 'general practice.' The profession of medicine is too vast to be grasped in all branches, in all details, by one mind."

The second letter is from Dr. W. C. Garvin, of Millington, Mich., dated June 20, 1909. He says:

"I am enclosing herewith the program of the last meeting of the Tuscola County Medical Society, at which Dr. Hays told his personal experience in refraction, and the paper was very generally discussed. There are six physicians in Tuscola county now doing something along this line, and I think that the traveling optometrists will find poor picking in this section in the future.

Since Oct. 17, 1908, I have fitted eighteen people with glasses, and think that they have all been satisfied, even if I have not done every case to my own satisfaction. I learn something from each case in which I determine the refraction, and unless I can improve the vision do not order glasses. Thus far I have found no case in which I thought glasses were really needed, that I have been unable to relieve, but should I find such a case I will refer it to the nearest specialist."

The family physician refractive work reported in these letters and much more told in letters which time forbids reading, was stimulated by the unanimous passage by this society last year of the following preamble and resolutions offered by Leartus Connor and seconded by F. W. Robbins:

"WHEREAS, Michigan now has three classes of medical practitioners: viz.: (1) The family physician, (2) specialist, (3) and remnants, as opticians, osteopaths, Christian scientists, etc. (all persons devoid of adequate training for the duties of the physician);

"WHEREAS, Among those remnants are the optometrists, who live on the cases of refractive defects neglected by the family doctor, and without the specialists' field;

"WHEREAS, It is discreditable to the medical profession and harmful to the people that any part of medical practice fall into the hands of unqualified persons;

"WHEREAS, It being a physical impossibility for the fully trained ophthalmologist to care for all the neglected class, it remains for the family doctor to qualify himself to recognize and treat the simple cases, seeking expert aid as emergency demands, if the medical profession is to occupy its entire field. Therefore, be it

"*Resolved*, That the councilors of the Michigan State Medical Society be directed to take this matter up with their several county societies and so educate their constituents that between the family physician and ophthalmologist the needs of the people be fairly and fully met.

"*Resolved*, That the council request the Michigan State Board of Registration, (1) to place among its requirements for a license to practice medicine, a practical demonstration by the applicant of his ability to recognize and treat simple presbyopia, simple myopia and simple hyperopia; to recognize and treat the infectious diseases of the eye and the uveal tract; and (2) that it cooperate with our legislative and public policy committee in all practical efforts to prevent the enactment by the Michigan legislature of a law giving opticians the legal right to practice ophthalmology in Michigan."

These resolutions were the outcome of a comprehensive study of the entire subject during the preparation of a paper on "Ophthalmology for General Practitioners" read before the American Academy of Ophthalmology and Oto-Laryngology and published in THE JOURNAL (Nov. 28, 1908, li, 1833). The facts of the paper were granted by the academy, the action advised approved, but regarded as impracticable. It was hoped that the resolutions would awaken the profession to study the situation, and induce some to qualify themselves to practice simple refraction; our letters show that these hopes were in some degree realized.

Further, the subject was taken up with individual members of the Michigan State Board of Registration and on Feb. 12, 1909, the secretary, Dr. B. D. Harison, sent the following letter to medical colleges:

"I am directed by the chairman of the examination committee, who has full charge of the matter, under resolution of the board, that in the future, beginning with the next spring examination, all applicants for license will be required to demonstrate their fitness to do practical refraction work, in addition to the usual written paper on diseases of the eye, ear, nose and throat. The examination on this subject will be conducted by a specialist and will constitute an integral part of the examination, and failure to obtain 50 per cent. of possible standing will subject the applicant to refusal of license."

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* Read before the Michigan State Medical Society, September, 1909

It is reported that on receipt of this notice many colleges, for the first time, began to teach their students simple refraction. Efforts are being made to have other state registration boards follow Michigan's example, and it is confidently expected that in the near future all who enter the practice of medicine will be able to do simple refraction. This requirement is definite, fair to the applicant, helpful to the profession, and beneficial to the people.

Besides the paper already mentioned, others were read before the Wayne and Tuscola county medical societies and the American Academy of Medicine. I also published in THE JOURNAL (April 10, 1909, lii, 1195) a letter giving in some detail reasons why family doctors should be able to do simple refraction.

Dr. Alvin A. Hubbell, of Buffalo, N. Y., in his address as chairman of the Section on Ophthalmology of the American Medical Association, June, 1909, discussed the "Ophthalmic Qualifications Which Should Be Demanded of the General Practitioner and of the Specialist Respectively" (THE JOURNAL, June 26, 1909, 2089). The committee appointed by the section to report on this address recommended the following:

1. "Every general practitioner should have the training in ophthalmology which will enable him to manage infectious diseases of the eye and its refractive defects. To obtain this qualification, medical colleges should make such training obligatory and state boards of registration demand it as a condition for license.

2. "Every general practitioner who desires to become an ophthalmologist should add to his training a comprehensive study of ophthalmology; do experimental work in the laboratory; and personal clinical experience in hospital or private office. To insure these qualifications, there should be appointed on each state board of registration at least one ophthalmologist, to examine applicants for license to practice ophthalmology.

3. "If these recommendations be approved by the Section, it is urged that a committee of three be appointed by the chair to study the subject and report their findings of the detailed measures necessary to secure trained family physicians, adequate for the needs of all the people, when suffering from ocular disabilities."

These recommendations were unanimously adopted by the Section, and the following committee appointed, viz.: Leartus Connor, Detroit; James Thorington, Philadelphia; and Albert R. Baker, Cleveland. It will be noted that future ophthalmologists will be asked to have the diploma required of the general practitioner, supplemented by a comprehensive study of ophthalmology, including experimental laboratory work and clinical experience in hospital or private office, all to be satisfactorily demonstrated to the satisfaction of the ophthalmological member of the state board of registration. As this Section numbers over eleven hundred members, the significance of its endorsement of these resolutions is apparent.

From evidence thus presented the proposition that "the family physician ought to be able to do simple refraction" has been endorsed by the Michigan State Medical Society; the American Academy of Ophthalmology and Oto-Laryngology; the American Academy of Medicine; the Section on Ophthalmology of the American Medical Association, and is required by the Michigan State Board of Registration as a condition for license to practice medicine.

By private letters, over signatures of their writers, it is shown that some family doctors have learned and are successfully practicing the art of simple refraction. It would be an insult to the other physicians in Michigan to suppose them inferior in this respect. Doubtless most are surfeited with practice and do not care to make the attempt, but if they tried they would surely succeed. Possibly the new men who enter the field will make the older ones take notice, as their patients leave them for the new doctor who can manage simple refraction.

At its meeting, June 14, 1909, the Tuscola County Medical Society listened to a paper by one of its members, a general practitioner, on "Some Points on Refraction," which was generally discussed by his fellow members, many of whom are earnest students of the subject. Similar incidents will occur in other counties, as a considerable number of their members master "simple refraction." Naturally this will lead to the mastery and discussion of other topics in general practice ophthalmology. This new line of society activity will augment the interest in and power of county societies, and so of the state society. As has occurred in Tuscola county, the opticians will lose their ophthalmic practice in the same proportion that family physicians become qualified therefor.

It is much that the largest ophthalmological society in America, the Section on Ophthalmology of the American Medical Association, has endorsed this movement and appointed a committee to encourage state registration boards to require a working knowledge of simple refraction as a condition for granting a license to practice medicine; and medical colleges to introduce it into their curriculums. So far as I am aware, this is the first special society to encourage the family doctor to advance his interests and that of his families by cultivating a neglected field allied to his own.

It counts for much that the Michigan State Board of Registration, in behalf of the people, demands a working knowledge of simple refraction as a condition for granting a license; because medical colleges must prepare their graduates therefor.

With results thus briefly sketched, gained during a single year, surely our council will be encouraged to more active effort in stimulating the members of their county societies (not surfeited with business) to master the technic of simple refraction.

All friends of the movement will be incited to greater activity and larger faith in its early triumph.

91 Lafayette Boulevard.

Symposium on Childhood Pathology

The pathology of childhood is discussed by various authors in the *Proceedings of the Pathological Society of Philadelphia*, September, 1909, xii, 3.

Antenatal Pathology.—B. C. Hirst deals with three problems in this subject, viz., antenatal syphilis, mechanically caused deformities, and the effects of maternal impressions. To prevent the fetus inheriting syphilis from a parent a period of four years under treatment should be insisted on. In a large proportion of cases syphilis acquired during pregnancy is transmitted to the fetus. The diagnosis of fetal or infantile syphilis can often be made without asking embarrassing questions by the discovery of the *Spirochæta pallida*, by Wagner's sign, by enlargement of the liver and spleen, by connective tissue overgrowth, skin eruptions, etc. Trauma or succussion in animals may lead to malformation of the fetus; and malformed or idiotic children may result from attempts to induce abortion. Violent emotion in the mother can affect the mentality of the child and can arrest its physical development or terminate its existence. But the photographic reproduction of some physical defect which the mother has seen is not to be expected, and such belief on the part of the laity should be combated by the physician.

Infections of the New-Born.—These are described by S. McC. Hamill. Mild infections of the umbilical stump are common. Omphalitis may extend along the arteries, usually starting with a periarteritis which spreads through the walls of the vessel, producing thrombi. The clots may break down and be converted into pus. The infection less frequently involves the veins and may extend to the peritoneum or liver, eventuating in sepsis of the new-born. Hamill regards melena as a symptom of septic infection. Septic infections in infancy may be due to streptococci, staphylococci, gonococcus, pneumococci, the colon bacillus, and many others. Contrary to the general supposition, Hamill believes that the new-born possess relatively high resisting power, or else infections would be more frequent, considering the numerous exposures to infecting agents. Infection may occur through the cord, the skin, the alimentary or respiratory tract, etc. The occurrence of a suppurating lesion of the cord does not prove it to be the portal of entry, as this infection occurs frequently without generalization. Infection through the skin may arise through the bath-tub, so that the use of sterilizable bath-tubs becomes a matter of importance. The care of the mouth, nostrils and anus is especially important to ward off infection through these channels. The pathologic changes are, briefly, congestion, hemorrhage and parenchymatous degeneration. Hemorrhages are especially important and may occur in the brain, lungs, pericardium, pleura, mucous membrane, etc. The liver usually shows the most marked changes such as parenchymatous or fatty degeneration, hepatitis and multiple abscesses. The kidneys may be the seat of parenchymatous changes, fatty degeneration, hemorrhages and interstitial inflammation. The pelvis is sometimes involved.

Status Lymphaticus.—This is the subject of a communication by J. Howland. The normal size of the thymus is undetermined, and, although investigation indicates the presence of a condition known as status lymphaticus in which the thymus and the lymphoid tissues are greatly enlarged and in which sudden death from cardiac syncope is very liable to occur, none of the theories so far advanced is sufficient to account for death in these cases. Mechanical pressure may be a factor in a small proportion of cases, but the supposition of a toxic action from the thymus is negatived by Howland's experiments. The theory that the thymus enlarges from a compensatory effort to supply the place of other organs is attractive, but attempts to explain it by lymphoid exhaustion in the spleen or glands are not successful, for the thymus does not exhibit a lymphoid structure, but is rather an epithelial organ. Twenty years after the enunciation of Paltauf's views we find ourselves still without a satisfactory explanation for death in status lymphaticus, but discarding vague theories enables us to get a clearer perception of where we stand.

Tumor Growth in Childhood.—This, according to David Riesman, cannot be determined by exact statistics. Such as are available indicate it to be relatively infrequent. Connective tissue tumors are more common than epithelial. If the tumor is malignant it takes the form of sarcoma rather than carcinoma. Of benign tumors fibroma, lipoma, chondroma, osteoma and myoma are uncommon or rare, while angioma and neuroma are comparatively frequent. Angioma is nearly always congenital or develops during the first year. It has been attributed to trauma, either intrauterine or at birth. Neuroma has its favorite site in the region of the eye. It usually takes the form of the plexiform neuroma, which in look and feel suggests a collection of earthworms under the skin and has a slow but progressive growth. Sarcoma is by far the most common tumor of childhood, all varieties being represented and the sites in the main being the same as in adult life. Sarcoma of the brain, including gliosarcoma, is the most frequent of brain tumors. In the internal organs, aside from the brain, sarcoma is rare, but frequently congenital. Congenital sarcoma of the liver and of the suprarenal gland has been reported by Pepper, who has collected five cases, and has also reported eleven cases of primary sarcoma of the suprarenal gland. A prominent symptom of these tumors is hemorrhage. Tileston and Wolbach have described as a clinical entity a peculiar primary sarcoma of the suprarenal gland which is associated with sarcoma of the cranium. The symptom that usually first attracts attention is the exophthalmus.

Chloroma.—Riesman considers this as a variety of sarcoma. It is a greenish-colored tumor occurring in the temporal and parietal region of the skull, the hard palate, the sternum and ribs, rarely in the skin. It is almost confined to children under the age of 15 years and is vastly more frequent in the male than in the female sex, the proportion being 36 to 10. The course is acute (four to six months) and the most striking symptom is exophthalmus, as it is also in the condition described by Tileston and Wolbach. Histologically, two types of chloroma may be distinguished, one in which the cells are large and lymphocytic, similar to those found in acute lymphatic leukemia; and one in which the cells resemble the myelocytes. These features have led Dock, Warthin and others to the view that chloroma is really a form of leukemia and not a tumor in the strict sense. The nature of the green color from which the tumor takes its name has not been definitely determined, but it is supposed to be due to the compactness of the highly granular cells.

Mixed Tumor.—An important and common new growth in childhood is the so-called mixed tumor, which passes under many names in the literature, such as sarcoma, carcinoma, myxosarcoma, rhabdomyoma, adenosarcoma, etc. The principal seats are the kidney, the ovary and the testicle. The growth of the tumor is rapid in contradistinction to that of hypernephroma, which is slow. Metastasis is not common, occurring in about 30 per cent. of the cases, chiefly to the lungs and liver. A curious feature of the tumors is that they do not directly involve the substance of the organ in which they are found, but press it aside. This is particularly noteworthy in the kidney. The surface of the section may be soft or gelatinous; at times it shows lobulation. Necrosis and hemorrhagic softening are common. The histologic structure is complex; striped and smooth muscle tissue, cartilage, adipose, mucoid, and elastic tissue, as well as glandular elements are found. In a rare case, reported by Muus, epidermal elements in the form of pearly bodies were present. The complexity of the tumors has given rise to a number of opinions as to their origin. Without going deeply into the subject it may be stated that the most acceptable view is that they are derived from a misplaced blastomere.

Retarded Mental Development.—D. J. McCarthy contributes a special study of this subject. The nervous tissues may show gross pathologic lesions or a practically normal nervous system. While alcohol and syphilis figure in the heredity, the important influence appears to be condition of lowered nutrition mainly due to tuberculosis. An additional clinical factor is the effect of prolonged and difficult delivery. The probable influence of the adrenals, pituitary, thyroid, etc., on cerebral development has been shown by modern investigations. In later childhood McCarthy has in two cases noted the connection of a persistent and enlarged thymus with a hallucinatory, delusional condition, lasting over several days with reflex dysphagia. In adult life, a grave neuromuscular condition, myasthenia gravis, is associated with and probably caused by the pathologic changes secondary to a persistent thymus. Instances have been noted in which the ganglion cells, in consequence of the presence of hemosiderin, underwent a change of function by which they became eliminators of the foreign substance and ultimately degenerated and became calcified. Such changes of function may be induced by congestion and edema, which may produce microscopic hemorrhages. In the minor grades of osmotic hemorrhage, due to prolonged passive congestion, perversion of function of the ganglion cell results without gross lesions. McCarthy believes that free blood in the tissues leads to that interference of function and potential which is manifested in later childhood in the failure to advance in mental development beyond a certain stage. Both experimental and clinical evidence show that microscopic blood osmosis with iron infiltration may exist both in the prenatal and postnatal states. That either inherited or acquired weakness or pathologic lesions of the vascular system would necessarily play an important part in the production of the above conditions is evident. The influence of tuberculosis and other dyscrasic states, syphilis, etc., could easily act in this way by leading to obstruction or rupture of capillaries or veins from increased pressure. This cause may not be the only one, but as an important factor in a large group of cases it deserves careful investigation.

Pasteurized Milk in Infant Feeding.—Physicians who have had large experience in the care and feeding of infants have a prejudice against the use of heated milk for prolonged periods. While it is admitted that the use of heated milk greatly diminishes the amount and seriousness of infantile diarrheas, it has been noted that while the children at first do well, later they may become flabby and anemic and the subjects of scurvy. Whether it is the heating or some other factor in the milk that induces scurvy is not determined.—M. J. Rosenau, in *Annals of Medical Practice.*

Association News

NEW MEMBERS

List of new members of the American Medical Association for the month of September, 1909:

ALABAMA
Pettey, F. P., New Decatur.
Winters, J. S., Bessemer.

ARKANSAS
Wall, E. D., Park Place.

CALIFORNIA
Bell, H. D., Oakland.
Blair, J. C., San Jose
Dozier, Earnest, San Francisco.

COLORADO
Horn, W. L., Boulder.

CONNECTICUT
Bill, P. W., Bridgeport.

DISTRICT OF COLUMBIA
Lowe, T. F., Washington.

GEORGIA
Corson, E. R., Savannah.
Gilbert, W. L., Atlanta.
Harrold, C. C., Macon.
Longino, L. P., Milledgeville.
McAfee, J. C., Macon.
Murphey, C. E., Atlanta.
Palmer, S. B., Macon.
Person, W. E., Atlanta.
Sterling, A. W., Atlanta.

ILLINOIS
Allison, C. N., Canton.
Bachmann, A. S., Forest Park.
Baker, G. J., Herrin.
Black, G. C., Table Grove.
Brinckerhoff, C. E., Chicago.
Drake, W. D., Aviston.
Drozdowitz, Theo., Chicago.
Escher, F. H., Chicago.
Grant, Margaret, Waukegan.
Haan, G. W., Aurora.
Pratt, J. A., Aurora.
Walters, William A., Chicago.
Warren, Emma J., Chicago.
Wright, A. O., Waukegan.

INDIANA
Dash, G. E., New Albany.
Ketcham, J. M., Indianapolis.
McCoy, J. N., Vincennes.
Paff, G. E., Rome City.

IOWA
Askey, T. B., Waterloo.
Carlson, F. G., Thornton.
Corcoran, L. L., Rock Rapids.
French, P. P., Rudd.
Hutchison, C. W., Whittemore.
Maynard, J. H., Adair.
Rose, H., Ft. Dodge.
Schmidt, F. E., Muscatine.
Sturdivant, L. J., Exline.
Walker, W. G., Corydon.

KENTUCKY
Haynes, W. L., Calhoun.
Johnson, G. L., Harrodsburg.
Lovell, A. G., Mt. Vernon.

LOUISIANA
DeLaureal, G. R., Broussard.
Lassiter, W., New Orleans.
Lynch, R. C., New Orleans.
Weil, A. I., New Orleans.

MAINE
Moore, R. B., Portland.

MASSACHUSETTS
Bryant, M. D., Lowell.
Miles, C. G., Brockton.
Pond, L. B., Easthampton.
Prenn, Joseph, Boston.

MICHIGAN
Blackman, J. M., Quincy.
Ball, J. H., Bay City.
Holdsworth, Frank, Traverse City.
Lambert, W. C., Wyandotte.
Russell, C. V., Lansing.
Wilson, Harold, Detroit.

MINNESOTA
Stocking, F. F., Rushford.

MISSISSIPPI
Carr, A. R., Water Valley.
Crawford, B. L., Tylertown.

MISSOURI
Bryan, R. S., St. Louis.
Carley, Harry D., St. Louis.
Clendening, Logan, Kansas City.
Hogan, F. E., Bigelow.
Smith, S. D., Cowgill.
Steiner, A. S., St. Louis.

NEBRASKA
Little, T. C., Omaha.
Marvel, G. H., Aurora.
Taylor, H. A., University Place.

NEW YORK
Bruso, C. F., Buffalo.
Caccini, A. M., New York City.
Clinton, Marshall, Buffalo.
Collie, R. M., Schenectady.
Dare, G. D., Morrisonville.
Foster, E. C., Penn Yan.
Halliwell, H. G., Ilion.
Jenkins, T. W., Albany.
Landesman, Max, New York City.
Maddock, G. F., Brooklyn.
Marshall, S. A., Long Island City.
Nehrbas, Jacob, Brooklyn.
Platt, A. A., Wayland.
Wallace, H. M., Oswego.
Wooton, H. W., New York City.

NORTH CAROLINA
Bowling, E. H., Durham.
Harper, C. T., Wilmington.
Lattimore, E. B., Shelby.
Palmer, B. H., Shelby.
Young, J. W., Charlotte

OHIO
Dickenson, John, Cleveland.
Klaus, M. H., Cleveland.
Patton, J. E., Byesville.
Schuster, G. R., Dayton.
Stanley, E. I., Albany.
Woodard, E. B., Chicago Junction.

OKLAHOMA
Chapman, J. J., Pooleville.
Cook, W. H., Chickasha.
Martin, J. T., Oklahoma City.

PENNSYLVANIA
Bates, H. L., Chestnut Hill.
Bertolet, W. M., Reading.
Bushong, Frederic, Pottstown.
Drake, G. R., Plymouth.
Dunlop, F. C., Philadelphia.
Eber, S. I., Pittsburg.
Finkelpearl, Henry, Pittsburg.
Erldy, C. W., Philadelphia.
Hunsicker, C. H., Philadelphia.
Lowa, Walter, Philadelphia.
Mauger, E. B., Pottstown.
O'Drain, T. I., Philadelphia.
Pretz, G. R., Lebanon.

SOUTH CAROLINA
China, Archie, Sumter.
Moorer, M. P., Georgetown.
Wiedhagen, A. C., Charleston.
Workman, J. B., Ware Shoals.

TENNESSEE
Williams, G. V., Chattanooga.

TEXAS
Freels, A. M., Denison.

UTAH
Gemmell, B. A., Salt Lake City.
Sharp, J. F., Salt Lake City.

VERMONT
Butterfield, A. M., North Troy.
Hyatt, E. A., St. Albany.

VIRGINIA
Epperson, P. S., Stovall.
Gorman, E. A., Alexandria.
Lewis, J. M., Manasses.
Harrison, H. W., Roanoke.
Mahood, H. B., No. Emporia.
Patterson, Wm., Waynesboro.

WASHINGTON
Morse, R. C., McMurray.
Peacock, A. H., Seattle.
Redner, L. R., Dayton.
Twiss, H. I., Seattle.

WEST VIRGINIA
Gardner, M. E., Dunlevie.
Manning, G. W., Dobbin.

WISCONSIN
Hastings, J. F., Kenosha.
Helland, G. M., Albany.
Rath, R. R., Granton.

PHILIPPINE ISLANDS
Welcome, E. H., Paniqui.
Jesus, Vicente, Lucena.

Book Notices

AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By W. A. Newman Dorland, A.M., M.D., Assistant Obstetrician to the University of Pennsylvania Hospital. Edition 5. Flexible Leather. Pp. 876, with 2000 new terms. Price, $4.50 net. Philadelphia: W. B. Saunders Co., 1909.

The fifth edition of this useful dictionary contains thirty-eight pages more than its predecessor did. According to the preface to the fifth edition, "more than 2,000 new terms have been added. *The majority of these words appear for the first time in any dictionary.* Moreover, the entire book has been revised, and many of the definitions have been rewritten and improved. A special feature has been made of those words in the realm of biology which occur so frequently in the literature of physiology and pathology." These improvements are indeed commendable; but we must confess that no medical dictionary appears as yet to give adequate attention to this rapidly growing division of the medical vocabulary. We should have been glad, for instance, to have had the names given of the various species of mosquitoes which act as hosts to pathogenic germs. Moreover, we feel that the medical lexicographer who shall attempt to cover thoroughly the field *of those apparently indispensable plagues of medical literature*, eponymic terms, old and new, especially in pathology, anatomy and biology, will earn the gratitude of all users of medical dictionaries.

We regret that neither editor nor publisher has thought it worth while to make this dictionary a guide to capitalization. We hope they may see fit to remedy this defect in the next edition.

THE MALARIAL FEVERS [illegible] ND THE BLOOD PROTOZOA OF MAN. By [illegible] otain, Medical Corps, U. S. Army. Cloth [illegible] Price, $4.50. New York: William Wood & Co., 1909.

In this work Craig endeavors to present the important advances and facts of interest to the student and clinician in regard to the malarial fevers and related subjects. Craig has had a large personal experience in the United States military hospitals in this country, Cuba and the Philippines. He is well-known because of the importance of his investigations in malaria and other protozoan diseases, which, taken in conjunction with his exceptionally large and varied active clinical experience, renders him especially well-qualified to write a book of this kind.

The 360 pages devoted to the consideration of the malarial fevers is divided into five parts: (1) the etiology, (2) the general and special pathology, (3) the symptomatology and clinical varieties, (4) the sequelæ, complications and prognosis, and (5) the diagnosis, prophylaxis and treatment of the malarial fevers. There are three colored plates, drawn by the author himself, illustrating various stages in the development of the different kinds of malarial plasmodia, numerous photomicrographs and clinical charts. In addition to the thorough consideration of the malarial fevers from the clinical as well as the laboratory side, chapters have been added treating on hemoglobinuric fever and the blood protozoa of man. Like Manson, Sambon and others, Craig holds that hemoglobinuric fever is a separate disease caused by a hitherto undiscovered organism, and he advocates with much force and soundness that the disease should be studied so far as possible without bias by preconceived ideas as to its malarial nature. The fact that hemoglobinuric fever occurs in malarial regions and often complicates malarial disease, renders it necessary to include its consideration in a complete work on malaria.

The last four chapters are devoted to the Leishman-Donovan bodies, the cause of tropical splenomegaly; *Trypanosoma gambiense*, the cause of sleeping sickness; the spirochetes causing the relapsing fevers; and *Histoplasma capsulatum* of Darling. This part is illustrated by a plate, the omission of part of the lettering of which may be noted.

At the end of each chapter of the book is a list of the most important papers bearing on the particular subject discussed, with authors' and general index at the end. The book is clearly written; it bears abundant evidence of its author's first-hand knowledge and thorough scientific study of malaria; and it is believed that it will be accepted by English-speaking physicians as a standard treatise on the malarial fevers. Craig has rendered a valuable service in placing within reach of physicians needing it—and this is true especially of those in tropical and subtropical countries—this excellent and complete guide to the diagnosis and treatment of malarial and other protozoan diseases. It is a worthy continuation in its sphere of the fine American work in the field of malaria and protozoon diseases in which Dr. Craig has taken a prominent part for several years; and it reflects credit on the Medical Corps of the U. S. Army.

A SYSTEM OF OPERATIVE SURGERY. By Various Authors. Edited by F. F. Burghard, M.S., F.R.C.S., Teacher of Operative Surgery in King's College, London. In Four Volumes. Vol. 1. Cloth. Pp. 751, with illustrations. Price, $10. New York: Oxford University Press, 1909.

The rapid advances in operative technic made within the last few years have demanded constant revision of operative surgeries which are already on the market, or the publication of new ones. The field has become so vast that it is practically impossible for one man to cover the entire field of operative surgery in all its details satisfactorily. The aim of this work, the first volume of which is under consideration, is to secure the best in each separate line by delegating the subject-matter to men who are recognized as leaders and original workers in the subject assigned to them. The result is noteworthy, as all the chapters are good and there is a symmetry about the entire volume which is usually wanting in a system of either surgery or medicine.

The chapter devoted to disinfection of the hands and patient's skin is good. The simple technic of water, soap, 70 per cent. alcohol, and a mercury preparation is preferred. The technic advised follows very closely that given by Fürbringer. We do not agree that the nails should be cut as short as possible, for a nail of moderate length certainly affords the greatest protection to the thin cuticle beneath, and sterilization is much more easily performed when this cuticle is intact than when it is fissured, as is apt to be the case when the nail is cut as short as possible. The writer in this chapter does not, we believe, insist strongly enough on the use of rubber gloves. The statement that they are undesirable for some operations because they interfere with the sense of touch and because they are so slippery will not be confirmed by many. If gloves are used often, one becomes accustomed to them and certainly the results following their use can not be equaled by any chemical method of hand sterilization, none of which will stand a thorough bacteriologic test.

Chapter 1 of Section 2, dealing with infiltration and regional anesthesia, and embodying most of the excellent and well-known work of Mr. Barker, can be read to advantage by every one using local anesthesia.

In Section 3, devoted to amputations, the indications and contraindications are stated clearly. We think, however, that the value of conservative operations on myeloid sarcomas might have received more attention than it has on page 64. The dangers of shock during amputation and methods of preventing the same are discussed on page 69 in a very satisfactory manner.

The subject matter in this volume is presented very clearly; many useless details emphasized in other text-books of operative surgery are slighted in this for the broad, general principles, so that each page is filled with essentials.

The first volume of this work should presage a large circulation for the entire system. The names appearing in the list of contributors speak for its scientific value and the succeeding volumes will be awaited with great interest.

SYMPTOMS AND THEIR INTERPRETATION. By James Mackenzie, M.D., M.R.C.P., Physician to the West End Hospital for Nervous Diseases, London. Cloth. Pp. 297. Price, 7 shillings 6 pence. London: Shaw & Sons, 8 Fetter Lane, E. C., 1909.

This contribution by McKenzie is designed to assist in placing Medicine in that position in science which ought of right to belong to her, and to make it less possible for skilled surgeons and diagnosticians to give widely divergent opinions as to the nature of a complaint in some single individual. After an introduction in which Mackenzie emphasizes the importance of accuracy of observation and correctness of method—which, of course, must be based on exact knowledge of anatomy and physiology—the bulk of the work is devoted to analyzing symptoms as they are to be found in practice and emphasizing the misleading and reflex character often assumed. Mackenzie closes by calling attention to the necessity of interpreting the symptoms found, in relation to the body as a whole, and to the particular patient in hand. It is only by bearing in mind every source from which a given symptom may arise that the physician can guard against some unfortunate oversight which may mean only a delay in proper diagnosis or perhaps a more serious result.

To a considerable extent, the work is taken up with the subject of pain and an analysis of what it means in its various presentations; pain being, perhaps, the most common symptom for which the medical man is consulted. The work is not a reaction against laboratory methods of diagnosis, but a very timely contribution out of the ripe experience of a master, which will, if studied, certainly aid the practitioner in developing that far-seeing eye that looks through the oft-conflicting evidence of disease to the ultimate cause.

The book has one disadvantage in having been printed on heavy glazed paper, which was not necessary since the pictures do not require it. We recommend a light-weight paper for the next edition, so that the book may be light and more easily handled. The index, we think, could be expanded a little to advantage.

A TEXT-BOOK OF MATERIA MEDICA, PHARMACOLOGY AND THERAPEUTICS. By George F. Butler, A.M., Ph.G., M.D., Professor and Head of the Department of Therapeutics, Chicago College of Medicine and Surgery. Sixth Edition. Cloth. Pp. 708. Price, $4. Philadelphia: W. B. Saunders Co., 1908.

This, the sixth edition of Dr. Butler's book, contains but few changes from and additions to the previous edition; those that have been made, however, add to its value. In the new edition we find grindelia classed as a "Motor Depressant," balsam of Peru under the "Aromatic Acids," tar and balsam of tolu as "Drugs Acting on the Respiratory Membranes," while buchu, uva ursi, juniper, copaiba, oil of santal, cubeb and sabal are found under "Drugs Acting Particularly on the Kidneys." In the previous edition all of these drugs were lumped together under the "Group of Aromatics Used Particularly to Stimulate the Mucous Membranes of the Genitourinary or Respiratory Tract." The new arrangement is obviously more rational. We also find that opium, which in the fifth edition was classed under "Hypnotics," is now found more correctly under the "Narcotics." A brief but clear-cut exposition on opsonins and vaccine therapy has been added to the chapter on "Organotherapy." In discussing the probability of a serum therapy for syphilis we read: "The most recent work . . . would seem to show that a spiral organism, *Spirochæta pallida*, bears some relationship to the disease." In the light of our present knowledge of the relationship of the pale spirochete to lues this statement is conservative almost to the point of obsolescence. The arrangement of the book is good looked at from the standpoint of either the undergraduate or the practitioner; the idea of giving the name of each drug in English and in both the nominative and genitive (or in some cases accusative) Latin is an excellent one and should prove a valuable help to the prescription-writer. The chapter on prescriptions which deals with the combination of drugs, incompatibility, antagonism, estimation of amounts, grammatical construction of prescriptions and abbreviations of much-used words and phrases, will be of interest to those physicians—and their number is increasing—who take a pride in accurate and scientific prescribing.

A SYSTEM OF MEDICINE. By many writers. Edited by Sir Clifford Allbutt, K.C.B., M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, and Humphry Davy Rolleston, M.A., M.D., F.R.C.P., Senior Physician, St. George's Hospital. Cloth. Pp. 969, with illustrations. Volume V. Diseases of the Respiratory System, Disorders of the Blood. Price, $6 net. New York: The Macmillan Co., 1909.

The standard of Volume V of this series is equal to that of the previous volumes. Its contents embrace an article by H. Mackenzie on the "Physical Signs of the Lungs and Heart;" "Artificial Aerotherapeutics," by C. T. Williams; "Asthma and Hay Fever," by Goodhart and E. I. Spriggs; "Bronchitis," by William Ewart; "Pneumonia," by Beddard, Eyre and Fawcett; "Abscess and Gangrene," by J. J. Perkins, and "Pulmonary Tuberculosis," by Kidd, Bulloch and Bardswell. A. E. Wright, Allbutt, Hutchison, Garrod, French, Muir and S. Mackenzie are some of those who take part in the discussion of the disorders of the blood. The affections of the pleura, mediastinum and thymus are also considered. Needless to say, the entire copy of the previous editions has been revised and rewritten with the view to making this system authoritative. We commend particularly the splendid list of references appended to each subject, which can not fail to prove of value to every student of medicine.

ESSENTIALS OF LABORATORY DIAGNOSIS. By Francis Ashley Faught, M.D., Director [illegible] the Department of Clinical Medicine, Med[illegible] Philadelphia, Pa. Cloth. Pp. 309, with [illegible] 1.50. Philadelphia: F. A. Davis Co., 1909.

This little manual aims to provide a working outline for clinical laboratory methods, which shall be complete enough for the average student and brief enough for the busy practitioner. In general, this purpose is well achieved, and in spite of Dr. Faught's determination not to "burden the reader with unnecessary detail," he has managed to include a great many helpful practical suggestions, although the clinical interpretation of results must, in a work of this size, be treated very lightly. The chapter on urine is the best in the book, and is especially good, presenting both the theoretical and the practical sides in a complete and available form. The chapter on bacteriology, also, is good, though brief, and gives not only rules for identifying various bacteria, but methods of preparing culture media, sterilization, etc. The chapter on blood is unsatisfactory. The examination of the stained specimen does not receive the attention it merits, and the enumeration of leucocytes is dismissed rather summarily. No plates accompany this part of the work. The chapter on serum reactions and bacterial vaccines shows a lack of practical experience with these methods, and an insufficient appreciation of the difficulties and uncertainties of such procedures. The book is fairly well, but not profusely, illustrated, and contains a valuable appendix giving formulas for stains and other solutions in common use in the laboratory.

LEHRBUCH DER MAGENKRANKHEITEN FÜR AERZTE UND STUDIERENDE. Von Dr. H[illegible] für Magen und Darmkrankheiten in Ber[illegible] with illustrations. Price, 12 marks. Berlin: Verlag von S. Karger, 1909.

The work of Dr. Elsner will be especially welcome to those who have become somewhat acquainted with the results of modern research in the department of diseases of the stomach. Physiologic experimentation has gone far enough to establish facts regarding the functions of the stomach that are of wide-reaching applicability and must materially alter the treatment of these diseases. The developments of the last few years have placed in the hands of the practitioner in the large cities and in many of the smaller towns a means of diagnosis, the *x*-ray, which enables the form, position and motor functions of the stomach to be ascertained with a degree of exactness which leaves little to be desired. The results of the modern diagnostic aids form a special feature of the book. The great importance of functional diseases of the stomach is shown by the fact that they form a majority of the cases presenting themselves to the general practitioner and even to the specialist, and it is of great importance that their nature should be clearly recognized. To Stiller is doubtless due in a very large degree the credit of having demonstrated the constitutional and congenital nature of many of these affections. Elsner has clearly recognized the importance of Stiller's teaching and has presented it in a way that will be appreciated by his readers. The book is constructed on the usual plan, consisting of a general and a special part. Theoretical questions and historical matters have in the main been omitted, the space being given to subjects of more practical importance. The presentation of the subject is clear and methodical. The book is well illustrated. It is to be hoped that an English translation will soon appear.

EIGHTH ANNUAL REPORT OF THE WORK OF THE CANCER LABORATORY OF THE NEW YORK STATE DEPARTMENT OF HEALTH. Conducted at the Gratwick Research Laboratory, University of Buffalo. 1907, Paper. Pp. 59.

This report presents several features of interest to all who appreciate the importance of the cancer problem. The director, Dr. Gaylord, has taken the opportunity to review the course and achievements of cancer research in the last decade, which practically covers the existence of the New York Cancer Laboratory, and shows that the advance in this sphere of knowledge, to which his laboratory has made important contributions, has substantially confirmed the theory of the infectivity of cancer to the support of which the early efforts of the laboratory were especially devoted. Several recent observations indicate that this theory will soon bear practical fruit. The discovery of cage infection, and the report of small endemics of animal cancer, as well as the peculiar grouping brought to light by a study of the geography of human cancer, indicate a contagiousness of the disease which makes a certain amount of isolation prudent if not imperative. The discovery of spontaneous cure of mouse tumors and of the power of the blood of normal animals, and especially of convalescents from cancer to destroy the infectivity of cancer cells, give promise of an eventual application to the cure of human cancer.

The article of Gary N. Calkins on "Rhythms of Growth Energy in Mouse Cancer," affords a good insight into the present status of the theory of the pathogenesis of cancer. The cancer cell differs from an embryonic cell in that it shows no power of adaptation, correlation or differentiation and from the ordinary epithelial cell in the possession of an extraordinary vigor of growth and the character of infectivity. These it owes to something within itself. Its parasitic character appears to be inseparable from its cellular existence and must be assumed to be due to the action of some special stimulus. This stimulus is believed to be a micro-organism, perhaps of ultramicroscopic size.

The paper by Dr. Gaylord on spirochetes accompanying cancer indicates a close relationship between these organisms and the growth of cancer. It is suggested that they may act by preparing the soil for the real infecting agent. An interesting fact recorded in the review of the work for 1907 is the discovery of a breeding establishment for mice where cancer is endemic. About 63 tumors have developed in approximately 7,000 mice reared at this place in eighteen months. The introduction of the breeding of white rats has proved that the place is as favorable for the growth of tumors in these animals as in mice. The tumors were mostly cancers of the female breast.

The Public Service

Medical Department of the Army

Changes for the week ended Oct. 2, 1909:

Stephenson, Wm., lieut. col., ordered to Fort Leavenworth, Kan., for duty, on expiration of his present leave of absence.

Davidson, W T., capt., relieved from duty on the transport *Buford*, and ordered to Columbus Barracks, Ohio, for duty.

De Loffre, S. M., capt., when relieved from duty at Columbus Barracks, Ohio, ordered to Fort Bliss, Tex., for duty.

Manly, C. J., major, when relieved at Fort Bliss, Tex., ordered to Fort Douglas, Utah, for duty.

Bevans, J. L., capt., granted leave of absence for 10 days.

Cowles, C. D., Jr., 1st lieut., relieved from duty in the Philippines Division, and ordered to duty on the transport *Logan*.

Raymond, T. U., major, McLellan, G. H., Mueller, Armin, Frock, C. E., 1st lieuts., relieved from duty at their present stations, and ordered to San Francisco, Cal., to sail December 6, for Philippine service.

Buck, C. D., capt., Rukke, G. V., King, Edgar, 1st lieuts., relieved from duty in the Philippines Division; will sail December 15, for San Francisco, Cal.

Tasker, A. N., 1st lieut., relieved from duty in the Philippines Division, and ordered to duty on the transport *Sheridan*.

Frick, E. B., major, granted leave of absence for 15 days.

Foley, T. M., M. R. C., relieved from duty at Fort Moultrie, S. C., and ordered to Henry Barracks, P. R., for duty.

Drake, P. G., Henry, Z. L., Wiggin, D. C., Bailey, Edward, M. R. C., relieved from duty at their present stations, and ordered to San Francisco, Cal., to sail December 6, for Philippine service.

Bowen, A. G., Crum, W. H., Fletcher, J. P., Holmes, R. W., M. R. C., ordered to active duty; will proceed to Washington, D. C., for a course of instruction at the Army Medical School.

Simpson, J. A., M. R. C., ordered to active duty, will proceed to the Presidio of Monterey, Cal., for duty.

Bundesen, H. N., M. R. C., ordered to active duty, will proceed to Fort D. A. Russell, Wyo., for duty.

Medical Corps of the Navy

Changes for the week ended Oct. 2, 1909:

Von Wedekind, L. L., surgeon, ordered to the Naval Recruiting Station, Chicago, Ill.

Schmidt, L. M., asst.-surgeon, detached from the Naval Recruiting Station, Chicago, Ill., and ordered to the navy yard, Charleston, S. C.

Shippen, L. P., asst.-surgeon, detached from the Navy Yard, Mare Island, Cal., and ordered to Washington, D. C., and report at the Bureau of Medicine and Surgery, Navy Department.

Diehl, O., medical inspector, ordered to duty on board the *Charleston*, as fleet surgeon, 3d squadron, Pacific Fleet.

Davidson, A. B., [illegible])ointed Acting Assistant Surgeon, with ran [illegible] grade) from Sept. 27, 1909; ordered to [illegible] Medical School, Washington, D. C.

Minter, J. M., asst.-surgeon, detached from the Naval Recruiting Station, Pittsburg, Pa., and ordered to the Naval Hospital, Norfolk, Va.

Straeten, R. J., asst.-surgeon, detached from the Naval Hospital, Guam, M. I., and ordered to the *Supply*.

Toulon, A. J., asst.-surgeon, detached from the *Supply* and ordered to the Naval Station, Guam, M. I.

Public Health and Marine-Hospital Service

Changes for the seven days ended Sept. 29, 1909:

Bailhache, P. H., surgeon, on leave, detailed for duty on Revenue Cutter *Seminole*, Sept. 25 and 29, and Oct. 1, 1909, in connection with the Hudson-Fulton Celebration.

Wasdin, Eugene, surgeon, granted 1 month's leave of absence from Sept. 22, 1909, on account of sickness.

White, J. H., surgeon, granted 14 days' leave of absence from Sept. 25, 1909.

Sprague, Ezra K., surgeon, granted 16 days' leave of absence from Oct. 8, 1909.

Lavinder, C. H., P. A. surgeon, detailed to represent the Service at the annual meeting of the Mississippi Valley Medical Association, to be held in St. Louis, Mo., Oct. 12-14, 1909.

Moore, Dunlop, P. A. surgeon, Bureau order of Aug. 7, 1909, revoked, directed to proceed to San Francisco, Cal.

Holt, John M., P. A. surgeon, granted 1 month's leave of absence from Aug. 16, 1909.

Wille, C. W., P. A. surgeon, granted 7 days' leave of absence from Sept. 26, 1909.

Warren, B. S., P. A. surgeon, detailed to represent the Service at the annual meeting of the Mississippi Valley Medical Association, to be held in St. Louis, Mo., Oct. 12-14, 1909.

Boggess, J. S., P. A. surgeon, granted 7 days, leave of absence from Sept. 24, 1909, under paragraph 191, Service Regulations.

Collings, G. L., P. A. surgeon, detailed for duty on Revenue Cutter *Androscoggin*, Sept. 25 and 29, and Oct. 1, 1909, in connection with the Hudson-Fulton Celebration.

Herring, R. A., asst.-surgeon, detailed for duty on Revenue Cutter *Mohawk*, Sept. 25 and 29, and Oct. 1, 1909, in connection with the Hudson-Fulton Celebration.

Krulish, E., asst.-surgeon, detailed for duty on Revenue Cutter *Gresham*, Sept. 25 and 29, and Oct. 1, 1909, in connection with the Hudson-Fulton Celebration.

Wood, C. E., asst-surgeon, granted 7 days' leave of absence from Sept. 28, 1909, under paragraph 191, Service Regulations.

Stiles, Charles W., chief, Division Zoology, Hygienic Laboratory, detailed to attend the annual meeting of the Mississippi Valley Medical Association, to be held in St. Louis, Mo., Oct. 12-14, 1909.

Bready, J. E., acting asst.-surgeon, granted 7 days' leave of absence from Oct. 5, 1909.

Gochicoa, A. E., acting asst.-surgeon, granted 30 days' leave of absence from Sept. 12, 1909, 25 days with pay and 5 days without pay.

Goldsborough, B. W., acting asst.-surgeon, granted 1 day's leave of absence, Sept. 30, 1909, without pay.

Horning, Henry, acting asst.-surgeon, granted 15 days' leave of absence from Oct. 4, 1909.

Naulty, C. W., Jr., acting asst.-surgeon, granted 1 day's leave of absence, Sept. 25, 1909.

Terry, M. C., acting asst.-surgeon, granted 21 days' leave of absence from Oct. 1, 1909, with pay, and 9 days from Oct. 22, 1909, without pay.

Underwood, F. R., acting asst.-surgeon, granted 22 days' extension of annual leave from Aug. 23, 1909, on account of sickness.

PROMOTIONS

Assistant Surgeon Hugh de Valin, commissioned a P. A. Surgeon (recess), to rank as such from Sept. 21, 1909.

Assistant Surgeon Marshall C. Guthrie, commissioned a P. A. Surgeon (recess), to rank as such from Sept. 9, 1909.

Health Reports

The following have been reported to the Public Health and Marine-Hospital Service, during the week ended Oct. 1, 1909:

SMALLPOX—UNITED STATES

District of Columbia: Washington, Sept. 11-18, 2 cases.
Illinois: Danville, Sept. 11-18, 1 case.
Massachusetts: Boston, Sept. 11-18, 1 case.
Missouri: St. Louis, Sept. 11-18, 1 case.
Ohio: [illegible] 8, 1 case.
Indiana [illegible] -31, 61 cases, 2 deaths.
North [illegible] July 1-31, 50 cases.

SMALLPOX—FOREIGN

Brazil: Bahia, Aug. 6-27, 18 cases, 9 deaths; Rio de Janeiro, Aug. 15-22, 3 cases.
India: Bombay, Aug. 10-17, 2 deaths; Rangoon, Aug. 7-14, 1 death.
Italy, general, Aug. 8-Sept. 5, 18 cases; Naples, Aug. 29-Sept. 5, 9 cases, 5 deaths.
Java: Batavia, Aug. 7-14, 2 cases.
Mexico: Guadalajara, Sept. 3-9, 1 death; Mexico City, Aug. 14-28, 7 deaths.
Portugal: Lisbon, Aug. 28-Sept. 4, 12 cases.
Russia: Moscow, Aug. 21-28, 5 cases, 4 deaths; Odessa, 11 cases; Riga, Aug. 28-Sept. 4, 6 cases.
Spain: Valencia, Aug. 21-28, 1 case; Vigo, Aug. 28-Sept. 4, 1 death.
Tripoli: Tripoli, Aug. 7-28, 26 cases, 5 deaths.

YELLOW FEVER—FOREIGN

Brazil: Bahia, Aug. 6-27, 3 cases, 2 deaths.
Mexico: Merida, Sept. 9-16, 1 case; Veracruz, Sept. 24, 1 case, 1 death, from steamship Mexican.

CHOLERA—FOREIGN

China: Amoy, Aug. 7-14, 12 deaths; Chefoo, Aug. 28, 5 deaths, among Europeans.
India: Bombay, Aug. 10-17, 43 deaths; Rangoon, Aug. 7-14, 2 deaths.
Japan: Amagasaki, Aug. 14-21, 4 cases.
Netherlands: Rotterdam, Sept. 4-11, 1 death.
Russia, general, Aug. 28-Sept. 3, 520 cases, 229 deaths; Moscow, Aug. 21-28, 1 case; Riga, Aug. 28-Sept. 4, 46 cases, 19 deaths; St. Petersburg, 171 cases, 82 deaths.
Sumatra: Djambi, July 15-31, 170 cases, 78 deaths.

PLAGUE—UNITED STATES

California: Alameda County, Sept. 24, 1 case.

PLAGUE—FOREIGN

Brazil: Bahia, Aug. 6-27, 8 cases, 4 deaths.
China: Amoy, Aug. 7-14, 52 deaths; Canton, July 24-Aug. 7, 15 cases, 12 [illegible] ily 31-Aug. 7, 3 cases, 3 deaths.
Ecuador: [illegible] 4 deaths.
Egypt, general, [illegible] 3, 17 cases, 6 deaths; Alexandria, Aug. 21, 1 case, 1 death; Port Said, Aug. 20-24, 1 case, 2 deaths.
India, general, Aug. 7-14, 1,659 cases, 1,251 deaths; Bombay, Aug. 10-17, 35 deaths; Rangoon, Aug. 7-14, 27 deaths.
Japan: Kobe, Aug. 14-21, 1 case, 1 death.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 9. Sec., Dr. F. T. Murphy, Brinkley.
CONNECTICUT: Homeopathic, New Haven, November 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.
CONNECTICUT: Regular, City Hall, New Haven, November 9-10. Sec., Dr. Charles A. Tuttle, 196 York St.
FLORIDA: Jacksonville, November 10-11. Sec., Dr. J. D. Fernandez.
GEORGIA: Regular, Capitol Bldg., Atlanta, October 12. Sec., Dr. E. R. Anthony, Griffin.
ILLINOIS: Coliseum Annex, Chicago, October 20-22. Sec., Dr. J. A. Egan, Springfield.
KANSAS: Topeka, October 12. Sec., Dr. F. P. Hatfield, Olathe.
LOUISIANA: Homeopathic, New Orleans, November 1. Sec., Dr. Gayle Aiken, 1102 St. Charles Ave.
MAINE: Portland, November 9-10. Sec., Dr. Frank W. Searle, 806 Congress St.
MICHIGAN: Lansing, October 12-14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.
MISSISSIPPI: Jackson, October 12. Sec., Dr. S. H. McLean.
NEW JERSEY: State House, Trenton, October 19-20. Sec., Dr. E. L. B. Godfrey, Camden.
NEW MEXICO: Santa Fe, October 11-12. Sec., Dr. J. A. Massie.
NEVADA: Carson City, November 1. Sec., Dr. S. L. Lee.
OKLAHOMA: Ione Hotel, Guthrie, October 13. Sec., Dr. Frank P. Davis, Enid.
TEXAS: Levy Bldg., Greenville, November 9-11. Sec., Dr. M. E. Daniel, Honey Grove.
WEST VIRGINIA: Chancellor Hotel, Parkersburg, November 9-11. Sec., Dr. H. A. Barbee, Point Pleasant.
WYOMING: Laramie, October 20-22. Sec., Dr. S. B. Miller.

Higher Entrance Requirements in Boston

Boston University School of Medicine announces that in 1912, besides a four-year high school education, one year of attendance, or its equivalent, at a college or technical school will be required for admission, this year's work to include English, Latin, German or French, mathematics, physics, chemistry and biology.

With twenty-five medical colleges already enforcing this standard and twenty-five others which have pledged themselves to do so, the adoption of thorough courses in these preliminary sciences in the requirements for admission to all our medical colleges in the next few years is practically assured.

Ohio Reciprocity Report

Dr. George H. Matson, secretary of the Ohio State Medical Board, sends us a report of reciprocal licenses issued by that board since Jan. 1, 1909. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
George Washington University	(1906)	Dist. Colum.
Hahnemann Medical Coll. and Hosp. Chicago	(2, 1908)	Illinois
American Medical Missionary College	(1907)	Illinois
Rush Medical College (1903)	(1906)	Illinois
Northwestern University Med. School (1907)	(1908)	Illinois

Bennett Medical College	(1908)	Iowa
Indiana	(1908)	Indiana
Indiana	(1907)	Indiana
Johns H	New York; (1906)	Maryland
Baltimor	(1902)	New York
Louisvill	(1890)	Illinois
College c Baltimore	(1900)	W. Virginia
Universi Med.	(1907) (1908)	Michigan
St. Louis University	(1908)	Illinois
University of Buffalo	(1901)	New York
Starling Medical College	(1893)	W. Virginia
Columbus Medical College	(1887)	W. Virginia
Medical College of Ohio	(1897)	Indiana
Eclectic Medical Institute, Cincinnati	(1891)	Indiana
University of Naples, Italy	(1900)	New York

Ohio June Report

Dr. George H. Matson, secretary of the Ohio State Medical Board, reports the written examination held at Columbus, June 8-10, 1909. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. Aside from the written examination, practical laboratory tests were required. The total number of candidates examined was 183, of whom 170 passed and 13 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1906)	80.8
College of Physicians and Surgeons, Chicago	(1906)	76.8
Rush Medical College	(1909)	87.3
Indiana University	(1909)	80.7, 83.9
Harvard Medical School	(1905) (1908) (1909)	82.8; 84.1; 86, 89.6
University of Michigan, College of Medicine	(1909)	86.2, 87.2
University of Michigan, Homeopathic College	(1909)	86.6 87.6
Starling-Ohio Medical College	(1909)	75.7, 76.2, 76.5, 76.9, 78.4, 78.5, 78.6, 78.8, 79, 79, 80.2, 80.3, 80.4, 80.5, 80.8, 81.1, 81.2, 81.7, 81.9, 82, 82.1, 82.7, 82.9, 83.6, 84.1, 84.4, 84.6, 84.6, 84.8, 85, 85.3, 85.4, 85.5, 85.6, 85.7, 85.9, 86.2, 86.2, 86.5, 86.6, 87.2, 87.2, 88.5, 88.9, 89.8, 90.3,
Medical College of Ohio	(1909)	75. 75.8, 77.5, 77.5, 78.2, 79.4, 80.1, 80.6, 82, 82.4, 82.5, 82.7, 83.2, 83.6, 83.8, 84.3, 85.1, 85.6, 85.8, 86, 86.3, 86.7, 87.1, 87.5, 87.6, 88.1, 89.3, 89.6.
Miami Medical College	(1909)	75.5, 76.1, 77.4, 78.8, 78.9, 82.9, 84.2, 85, 86.1, 87, 87.3.
Western Reserve University	(1908) (1909)	82.3; 79.1, 81.2, 82.3, 82.9, 83.3, 83.7, 84, 84.1, 84.2, 84.5, 84.5, 84.9, 84.9, 85.6, 86.3, 87, 87.1, 88.2, 88.2, 88.5, 89, 90.1, 92.1, 93.7.
Cleveland College of Physicians and Surgeons	(1909)	75.1, 76.1, 78.2, 78.9, 79.8, 80.2, 80.3, 80.8, 81.3, 81.7, 83.5, 83.7, 85.7, 85.9, 86.7, 86.7.
Pulte Medical College	(1909)	80, 86.4, 86.6, 89.9
Cleveland Homeopathic Medical College	(1909)	77.1, 80.8. 81.5, 84.7, 85, 85.6, 86.3.
Eclectic Medical Institute, Cincinnati	(1909)	78.8, 78.9, 79.1, 81.5
Toledo Medical College	(1909)	80.9, 86.9
ania	(1909)	87.2, 89.4
llege, Philadelphia	(1909)	81.5, 87.3
ge...	(1907) (1907) (1908)	86.2; 85.6; 85.
ll. and Hosp., Phila.,	(1909)	84.7, 87.3. 88.5
Canada	(1907)	89.3
ntreal, Quebec	(1908)	91.4
ingston, Ontario	(1908)	86.9
taly	(1902)	85.5

FAILED

College	Year Grad.	Per Cent.
Illinois Medical College	(1908)	61.
Hering Medical College, Chicago	(1894)	62.1
Starling-Ohio Medical College	(1909)	66.8, 72.4, 72.9
Medical College of Ohio	(1902)	44.2
Miami Medical College	(1909)	63.6, 65.9, 70.6, 73.4
Eclectic Medical Institute, Cincinnati	(1909)	69.6
Toledo Medical College	(1909)	71.2
Meharry Medical College	(1908)	60.7

Arizona July Report

Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, July 5-6, 1909. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 5, of whom 3 passed and 2 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Louisville	(1909)	86.4
University of Michigan	(1902)	83.6
University of Nashville	(1909)	81.7

FAILED

College	Year Grad.	Per Cent.
Hospital College of Medicine, Louisville	(1903)	74.9
University of Michigan	(1909)	72.

Colorado July Report

Dr. S. D. VanMeter, secretary of the Colorado State Board of Medical Examiners, reports the written and oral examination held at Denver, July 6, 1909. The total number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. Nineteen applicants were examined, of whom 14 passed and 5 failed. Thirty candidates were registered on presentation of satisfactory credentials, including state licenses. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine,	(1909)	76.1, 76.6, 77.5, 77.8, 79.7. 80. 80.7, 80.7, 82.7.
University of Colorado	(1909)	75.8, 81, 84.5
Denver College of Physicians and Surgeons	(1909)	75.7
Rush Medical College	(1909)	83.2

FAILED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1909)	73.6
Bennett Medical College	(1909)	58.5
Baltimore University	(1897)*	
Ensworth Medical College	(1908)	38.7
Lincoln Medical College	(1908)	61.6

REGISTERED ON CREDENTIALS

College	Year Grad.	State Licenses
Denver and Gross College of Medicine	(1907)	Wyoming
Rush Medical College	(1899) Iowa; (1906)	Illinois
College of Phys. and Surg., Chicago	(1906) (1908)	Illinois
Hahnemann Med. Coll. and Hospital, Chicago	(1907)	Missouri
Northwestern University Medical School	(1891) (1908)	Illinois
Keokuk Medical College	(1898)	Iowa
	(1908)	Indiana
kuk.	(1880) Illinois; (1897)	Missouri
.	(2, 1874) Missouri; (1891)	Kansas
ne	(1888)	New Mexico
	(1908)	Michigan
	(1905)	Nebraska
	(1881)	Missouri
t. Joseph	(1897)	Missouri
Louis	(1895) (1904)	Illinois
f Phys. and Surg.	(1901)	New York
Cleveland Homeopathic Medical College	(1878)	New York
University of Wooster, Cleveland	(1896)	Ohio
University of Pennsylvania	(1901)	Penna.
Hahnemann Med. Coll. and Hospital, Philada.	(1899)	New York
Western Pennsylvania Medical College	(1887)	Penna.
Medical College of Ohio	(1880)	Kentucky
Trinity Medical College, Ontario	(1894)	Michigan

* Percentage not given.

North Dakota July Report

Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, July 6-8, 1909. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 13, of whom 12 passed and 1 failed. Eight reciprocal licenses were issued at this meeting. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Northwestern University Medical School	(1909)	79.
College of Physicians and Surgeons, Chicago	(1908)	75.
Medical College of Indiana	(1903)	78.
University of Iowa	(1908) 75; (1903)	83, 87.
Hamline University	(1908)	78.
St. Louis College of Physicians and Surgeons	(1904)	77.
Barnes Medical College	(1904)	79.
Bellevue Hospital Medical College	(1899)	87.
Wisconsin College of Phys. and Surg.	(1905) 80; (1909)	82.

FAILED

College	Year Grad.	Per Cent.
Keokuk Med. Coll., College of Phys. and Surg.	(1908)*	

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1906)	Illinois
Chicago College of Medicine and Surgery	(1908)	Illinois
Bennett Medical College	(1908)	Illinois
Northwestern University Medical School	(1907)	Illinois
University of Minnesota	(1906) (1907) (1908)	Minnesota
St. Louis University	(1908)	Illinois

* Second examination.

Connecticut July Report

Dr. Charles A. Tuttle, secretary of the Connecticut Medical Examining Board, reports the written examination held at New Haven, July 13-14, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 26, of whom 21 passed, 4 failed and 1 withdrew. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale Medical School	(1908) (1909)	77.6; 76.7, 78.8, 80.5, 80.7
Georgetown University	(1908)	80.9
University of Louisville	(1902)	76.8
College of Physicians and Surgeons, Baltimore	(1909)	75.2
Baltimore Medical College	(1909)	76.4, 82.
Harvard Medical School	(1894)	75.5
Columbia University, College of Phys. and Surg.	(1909)	89.1
Long Island College Hospital	(1908)	82.2
Syracuse University	(1908)	78.8
University and Bellevue Hospital Med. College	(1909)	80.9
Cornell University Medical College	(1902)	84.

Medico-Chirurgical College, Philadelphia	(1909)	79.1
Jefferson Medical College	(1909)	79.2
University of Pennsylvania	(1909)	75.7
University of Vermont	(1909)	81.5, 82.2

FAILED

Maryland Medical College	(1908)	69.9
Jefferson Medical College	(1909)	72.6
University of Vermont	(1903)	73.6
University of Naples, Italy	(1905)	68.4

Maine July Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Augusta, July 13-14, 1909. The number of subjects examined in was 12; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 31, of whom 26 passed and 5 failed. Three reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Medical School of Maine, (1908) 83.7; (1909) 82.8, 84.6, 85, 85, 85.6, 88.2, 88.2, 89.3, 89.6, 90.6, 91, 91.5, 92.4.		
Baltimore Medical College	(1909)	76.5
Maryland Medical College	(1909)	83.5, 86.6
Atlantic Medical College	(1909)	78.6, 86.2
Boston University (1891) 91.6;	(1909)	91.
College of Phys. and Surg., Boston, (1901) 86.3;	(1909)	86.3
University of Michigan	(1909)	83.3
Women's Medical Coll. of the New York Infirmary,	(1884)	94.3
Jefferson Medical College	(1896)	87.4

FAILED

Atlantic Medical College	(1909)	73.6
College of Physicians and Surgeons, Boston	(1903)	72.6,‡ 81*†
Laval University, Quebec	(1903)	76.2*
Bishop's College, Montreal, Quebec	(1905)	79.8*

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Baltimore	(1899)	Maryland
Johns Hopkins University	(1904)	Maryland
Laval University, Montreal, Canada	(1899)	Minnesota

* Fell below 60 in one or more branches.
† Second examination.
‡ Third examination.

Connecticut Homeopathic July Report

Dr. Edwin C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports the written examination held at New Haven, July 13-14, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 8, of whom 3 passed, 4 failed and 1 was conditioned. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
New York Homeo. Med. Coll. and Hosp. (1907) 89;	(1908)	78.7
Hahnemann Med. College and Hosp., Philada.	(1909)	85.4

FAILED

Hahnemann Med. College and Hospital, Chicago	(1909)	62.2, 65.1
Atlantic Medical College	(1909)	53.7
Boston University	(1905)	64.3

Marriages

HARVEY LEONARD, M.D., to Miss Neva Bell Drase, at Easton, Md., September 22.

J. KNOX INSLEY, M.D., Tangier, Va., to Miss Helen Horn, at Baltimore, September 18.

GEORGE HENRY SCHROEDER, M.D., to Miss Elsa Niemeyer, both of Chicago, September 18.

WALTER S. CHERRY, M.D., to Miss Frances Phillips, both of Table Rock, Neb., September 21.

PENDLETON GARDNER, M.D., Haileyville, Okla., to Miss Ida A. Flickinger of Arcola, Ill., September 16.

SAMUEL LUTHER BARE, M.D., to Miss Nellie Ruth Schaeffer, both of Westminister, Md., September 22.

WILLIAM H. COOGAN, M.D., Bryn Mawr, Pa., to Miss Alice L. Prince of Vineland, N. J., September 18.

ALEXANDER M. MACAULAY, M.D., Belt, Mont., to Miss Anna M. Eitelgoerge of Rome, Ind., September 7.

ELIAS BURTON HOWELL, M.D., Tiffin, Iowa, to Miss Bertha Hemsworth of Cedar Falls, Iowa, September 23.

JOHN JACOB REMSBERG, M.D., Walkersville, Md., to Miss Harriet English Everett, at Hamilton, Va., September 22.

Deaths

George Cuvier Harlan, M.D. University of Pennsylvania, Philadelphia, 1858; of Philadelphia; a member of the American Medical Association; of Philadelphia; surgeon in the Navy and later surgeon of the Eighth Pennsylvania Volunteer Cavalry in the Civil War; a member and once president of the American Ophthalmological Society and Philadelphia College of Physicians; consulting surgeon to Will's Eye Hospital; ophthalmologist to the Pennsylvania Hospital and Pennsylvania Institute for the Blind and Pennsylvania Institute for the Deaf and Dumb; emeritus professor of diseases of the eye in the Philadelphia Policlinic; chief of the ophthalmologic section at the Louisiana Purchase Exposition, St. Louis; died in Chestnut Hill Hospital, after being thrown from a horse, September 22, sustaining a fracture of the spine, aged 74.

Xenophon Christmas Scott, M.D. Western Reserve University, Cleveland, 1867; College of Physicians and Surgeons, New York City, 1869; a veteran of the Civil War; for many years a member of the American Medical Association; formerly president of the Mississippi Valley Medical Association; ophthalmic and aural surgeon to the German Hospital, Cleveland; and professor of ophthalmology, otology and laryngology in the Western Reserve University; founder and surgeon-in-chief of the Cleveland Eye, Ear and Throat Institute; in charge of a military hospital in Heidelberg during the Franco-German war; a well-known specialist on diseases of the eye; died at his home in Cleveland, September 30, from cerebral hemorrhage, aged 66.

John Janvier Black, M.D. University of Pennsylvania, Philadelphia, 1862; a member of the American Medical Association; College of Physicians, Philadelphia, and National Association for the Study and Prevention of Tuberculosis; acting assistant surgeon U. S. Army, from 1862 to 1864; president of the board of trustees of the Delaware State Hospital, Farnhurst; and a trustee of Delaware College, Newark; authority on the culture of fruit trees and author of "Forty Years in the Medical Profession;" died at his home in New Castle, Del., September 27, from uremia, aged 71.

William H. Felton, M.D. Medical College of Georgia, Augusta, 1844; four years later ordained a clergyman of the Methodist Episcopal Church South; a volunteer surgeon in the Confederate service during the Civil War; a member of the forty-fourth, forty-fifth and forty-sixth congresses from the seventh district of Georgia; and for four terms a representative in the state legislature; died at his home in Cartersville, September 24, from acute gastritis, aged 86.

Leonard Warring Arnold, M.D. Medical College of Ohio, Cincinnati, 1877; Vanderbilt University, Nashville, Tenn., 1882; health officer of Florence, Ala.; a member of the board of censors of Lauderdale county; formerly president of the local board of U. S. pension examining surgeons; local surgeon of the Louisville and Nashville Railroad; died in Memphis, Tenn., September 25, from cerebral hemorrhage.

Edwin Rutherford Willard, M.D. Rush Medical College, Chicago, 1852; of Joliet, Ill.; a member of the American Medical Association; consulting surgeon to St. Joseph's and Silver Cross hospitals, Joliet; surgeon of the Thirteenth Illinois Volunteer Cavalry during the Civil War; died at his old home in Wilmington, Ill., June 22, from nephritis, aged 79.

Francis Marion Slemons, M.D. University of Maryland, Baltimore, 1860; a member of the Medical and Chirurgical Faculty of Maryland; and for forty-nine years a practitioner of Salisbury; clerk of the Circuit Court of Wicomico county from 1885 to 1891; died at the home of his son in Baltimore, September 22, from cerebral hemorrhage, aged 70.

Edward N. Shaw, M.D. Atlanta (Ga.) Medical College, 1884; a member of the Milam County (Texas) Medical Society; major and surgeon Fourth Texas Infantry, U. S. V., during the Spanish-American War; major and surgeon Texas National Guard; owner and superintendent of the Milam Hospital; died in that institution, August 31, aged 48.

James G. Hart, M.D. Eclectic Medical Institute, Cincinnati, 1873; a member of the Kentucky State Medical Society, and twice president of the Western Kentucky Medical Society; supreme medical director of the National Fraternal Union; died suddenly at his home in Murray, September 23, from heart disease, aged 60.

Edgar I. Bradley, M.D. College of Physicians and Surgeons, Chicago, 1894; a member of the American Medical Association; formerly secretary of the Madison County (Mont.) Medical Society, and owner of the Virginia City Hospital; died at his home in White Sulphur Springs, Mont., September 21, aged 38.

William Hart Withrow, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1883; formerly of Spring Station, Ky.; for four and a half years assistant superintendent of the Minnesota State Hospital, Rochester; died at the home of his sister in Minneapolis, September 12, from paresis, aged 52.

Henry F. Battey, M.D. Cleveland University of Medicine and Surgery, 1884; formerly of Boulder, Colo.; died in McAllen, Texas, February 17, from the effects of a gunshot wound, self-inflicted, it is believed with suicidal intent, while despondent on account of ill health, aged 46.

James D. Guy, M.D. Geneva (N. Y.) Medical College, 1868; a member of the Medical Society of the State of New York; health officer of the township of Chenango; and coroner of the northern district of Broome county; died at his home in Chenango Forks, September 15, aged 68.

Simeon Palmer Lloyd, M.D. University of Pennsylvania, Philadelphia, 1893; city physician of Savannah, colored department, from 1895 to 1900; a member of the medical staff and treasurer of the Charity Hospital for the Colored; died at his home in that city, September 25.

John B. White, M.D. University of Tennessee, Nashville, 1882; of Fall Branch, Tenn.; for fifty-two years a practitioner; at one time a representative from Washington county in the legislature; died at the home of his daughter in Baileyton, Tenn., September 9, aged 78.

Orrin Hayden Evans, M.D. Starling Medical College, Columbus, Ohio, 1898; formerly city physician of Springfield, Ohio; a member of the Clark County Medical Society; died at the home of his mother in Jackson, Ohio, September 20, from pulmonary tuberculosis, aged 35.

John Willis Mitchell, M.D. Jefferson Medical College, Philadelphia, 1889; of Clarksville, Ark.; physician of Johnson county; a member of the Arkansas Medical Society; was shot and killed by his business partner at Clarksville, September 11, aged 42.

Ernest Edward Barker, M.D. State University of Iowa, Iowa City, 1907; a member of the North Dakota Sixth District Medical Society and health officer of Underwood; died suddenly at his home, September 9, from cerebral hemorrhage, aged 28.

George H. Berry, M.D. Washington University, Baltimore, 1848; Georgetown University, Washington, D. C., 1850; a member of the Somerset County (Md.) Medical Society; died at his home in Hopewell, September 10, from rheumatism, aged 84.

Albert Michael Fischer, M.D. College of Physicians and Surgeons, Chicago, 1906; of Kaukauna, Wis.; a member of the American Medical Association; died in St. Mary's Hospital, Oshkosh, Wis., September 21, from anterior poliomyelitis, aged 27.

Walter H. Vinal, M.D. College of Physicians and Surgeons, Baltimore, 1897; a surgeon of volunteers during the Spanish-American War with service in Cuba; died at his home in Hamilton, near Baltimore, September 27, from pneumonia, aged 35.

Gardner C. Wood, M.D. New York University, 1846; representative from Somers, Conn., in the general assembly in 1862; for more than half a century a fruit culturist and scientist; died at his home in Somers, March 7, aged 85.

Alfred M. Webster, M.D. Chicago Homeopathic Medical College, 1887; general secretary of the New Era Association of Grand Rapids, Mich.; shot and killed himself in the office of the organization, September 30, aged 60.

Fenton G. Helms, M.D. Cincinnati College of Medicine and Surgery, 1873; a member of the Ohio State Medical Association; formerly a member of the city council of Uhrichsville; died at his home, September 24, aged 59.

Clifford Llewellyn Pike, M.D. Medical School of Maine, Brunswick, 1881; formerly secretary of the Oxford County (Maine) Medical Society; died at his home in Saco, Maine, September 20, from pneumonia, aged 50.

John James Babington, M.D. Long Island College Hospital, Brooklyn, 1894; a member of the Medical Society of the State of New York; died suddenly at his home in Brooklyn, September 27, from angina pectoris, aged 51.

James L. Penney, M.D. Western Reserve University, Cleveland, 1873; for half a century a physician of McKeesport, Pa.; assistant surgeon of volunteers during the Civil War; died at his home, September 21, aged 71.

William Caldwell, M.D. University of Dublin, Ireland, 1848; for two years editor of the Blairsville (Pa.) *Appalachian;* died at the home of his daughter in Johnstown, Pa., September 13, from senile debility, aged 81.

Marshall Alexander Gilreath, M.D. University of Nashville and Vanderbilt University, Nashville, Tenn., 1891; of Selma, Cal.; *died in the Selma Sanitarium, September 22, from intestinal obstruction,* aged 46.

Earl Carlton Smith, M.D. Eclectic College of Physicians and Surgeons, Indianapolis, 1893; of Indianapolis; died suddenly at the home of his sister in that city, September 19, from heart disease, aged 37.

Henry R. Case, M.D. George Washington University, Washington, 1873; a member of the American Medical Association; died at his home in Flint, Mich., Dec. 5, 1908, from cancer of the neck, aged 60.

Enoch Mills Baker, M.D. New York University, New York City, 1890; a member of the American Medical Association; died suddenly at his home in Jersey City, N. J., from spinal disease, aged 48.

Martin H. Calkins, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1868; a member of the Iowa legislature from 1882 to 1884; died at his home in Wyoming, September 28, aged 81.

Joseph Carson Beckham, M.D., one of the oldest practitioners of Zebulon, Pike county, Ga.; died at the home of his son in Atlanta, Oct. 31, 1908, from cerebral hemorrhage, aged 88.

Frederick Cobbold McCallum, M.D. University of Toronto, 1866; Bellevue Hospital Medical College, New York City, 1866; died at his home in Hersey, Mich., September 18, from jaundice.

John Alexander Harper, M.D. Memphis (Tenn.) Hospital Medical College, 1896; of Lux, Miss.; died in Hattiesburg, Miss., January 14, from carcinomma of the cecum, aged 47.

W. Gregg Austin, M.D. Memphis (Tenn.) Hospital Medical College, 1893; a member of the Mississippi State Medical Association; died at his office in Utica, September 25, aged 44.

Robert Marion West, M.D. University of Louisville (Ky.), 1860; a member of the American Medical Association; died at his home in Clarendon, Ark., September 23, aged 77.

Charles W. Harper, M.D. University of Maryland, Baltimore, 1869; died at his home in Halethorpe, near Baltimore, May 14, from senile debility, aged 71.

Alfred Ernest Pleavin, M.D. Bennett Medical College, Chicago, 1906; died at his home in Elgin, Ill., September 22, from acute meningitis, aged 29.

Emmett E. Richardson, M.D. Cleveland University of Medicine and Surgery, 1893; died at his home in Dundee, Mich., September 18, aged 50.

Robert E. Tweedy, M.D. University of Pennsylvania, Philadelphia, 1856; died at his home in Courtland, Ala., August 27, aged 78.

Milton D. M. Batdorf (license, Berks county, Pa.); of Bethel, Pa.; died March 7, from cerebral hemorrhage, aged 65.

George W. Bell (license, Mo., 1892); an eclectic practitioner of Kansas City; died at his home, June 19, aged 71.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Correction: Through a mistake, in The Journal, September 25, the wrong program appeared under the heading, "First Month—Fourth Weekly Meeting." Instead of "Diseases of Cerebral Veins and Sinuses, etc.," there should have appeared "Surgery of Pericardium and Heart, etc.," printed below.

First Month—Fourth Weekly Meeting

Surgery of Pericardium and Heart

Pericardium: Injuries; diagnosis and treatment. Hemopericardium and hydropericardium; diagnosis of each. Indications and technic of aspiration of pericardium, of pericardiotomy.

Heart: Injuries, character of wounds. Indications for surgical treatment.

SURGERY OF MEDIASTINUM

INJURIES: Rarity, structures injured.

MEDIASTINITIS, ACUTE AND CHRONIC: Etiology.—Acute, external and internal wounds, extension from adjacent viscera, cellulitis of neck, etc. Chronic, tuberculosis, caries of vertebra, etc. Symptoms. Treatment.

TUMORS OF MEDIASTINUM

Varieties. Symptoms and diagnosis.

Monthly Meeting

The Treatment of Penetrating Wounds of the Thorax.
The Symptoms and Diagnosis of Empyema.
The Present Status of the Surgery of the Heart.

REFERENCE BOOKS FOR THE FIRST MONTH

Beck: Surgical Diseases of the Chest.
Keen: Surgery.
Bryant and Buck: Practice of Surgery.
Von Bergman and Bull: System of Surgery.
Paget: Surgery of the Chest.
Ricketts: Surgery of Heart and Lungs.

Second Month—Second Weekly Meeting

DISEASES OF THE BRAIN

DISEASES OF THE MENINGES

PACHYMENINGITIS INTERNA: Etiology, age, sex, alcohol, acute infection. Pathology, changes in dura, in pia, in bloodvessels. Presence of (a) subdural vascular membrane; (b) simple subdural hemorrhage. Changes in brain structure. Diagnosis.

PIAL HEMORRHAGE: In new-born, frequency, location, causes, immediate effects, remote effects. In later life, causes, location, symptoms.

LEPTOMENINGITIS: Etiological classification.* 1. Primary, (a) cerebrospinal fever (diplococcus intracellularis, (b) pneumococcic (pneumococcus). 2. Secondary (due to bacillus tuberculosis, pneumococcus, pyogenic cocci (streptococci and staphylococci), acute infections (typhoid, influenza, diphtheria, etc.). Symptoms. History of previous infection. Invasion period. Headache, delirium, convulsions, vomiting, constipation, muscular rigidity. Basilar symptoms. Course and terminations.

CEREBRAL ANEMIA AND HYPEREMIA: Etiology, diagnosis and prognosis of each.

CEREBRAL ARTERITIS:† Etiology and pathological changes of (a) acute arteritis, (b) periarteritis, (c) chronic arteritis (atheroma), (d) arteriosclerosis, (e) syphilitic arteritis.

Society Proceedings

COMING MEETINGS

Amer. Association of Railway Surgeons, Chicago, October 20-22.
American Public Health Association, Richmond, Va., Octcber 19-22.
Hawaiian Territorial Medical Society, Honolulu, November 19.
Kentucky State Medical Association, Louisville, October 19-21.
Medical Association of the Southwest, San Antonio, Tex., Nov. 9-11.
Minnesota State Medical Association, Winona, October 13-14.
Mississippi Valley Medical Association, St. Louis, October 12-14.
Nevada State Medical Association, Goldfield, November 2.
Southern Medical Association, New Orleans, November 9-11.
Vermont State Medical Assn., White River Junction, Oct. 14-15.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Fifty-Ninth Annual Session, held in Philadelphia, Sept. 27-30, 1909

The President, DR. GEORGE W. WAGONER, Johnstown, in the Chair

Address of Welcome and Presentation of Flag

DR. FREDERICK P. HENRY, Philadelphia, delivered an address of welcome on behalf of the Philadelphia County Medical Society and presented to the society a flag designed by a committee of the county society. The flag was accepted by the president on behalf of the state society and a motion was passed by a rising vote that it be accepted as the official banner of the Medical Society of the State of Pennsylvania.

An address of welcome was also made by the Hon. John E. Reyburn, mayor of Philadelphia.

Secretary's Report

The state of the society was reported by the secretary, Dr. Cyrus L. Stevens, Athens. The sixty-three component county societies were stated to have done more scientific work and to have held better meetings during the year than in any previous year. The present membership is 5,207, a net gain of 203 during the year.

President's Address: Physicians and the Public

DR. GEORGE W. WAGONER, Johnstown: There seems to be a lack of harmony between the public and the medical profession which has caused antagonism and open warfare on matters of immense importance to all, and a disinclination on the part of the public to deal fairly with subjects which all true medical men consider necessary to the welfare of the public and the profession. If the reason for this antagonism can be discovered, some method may be devised by which the public mind may be disabused; but while pointing out the injustice of the public we should not be blind to our own shortcomings. If in ordinary active practice we are more interested in watching and noting the phenomena of disease than in securing the comfort of the patient, we are missing the true object of our science and art, which is helpfulness. If we attempt to prove theories in the application of remedies while our patients linger in uncertainty and disability, then do we fail in helpfulness. If we clash over the minute and technical measures while neglecting the fundamental means of renewing life and health, we fail to be helpful. The keynote of success is helpfulness. If it be helpfulness on scientific observation, deduction and knowledge, it marks the highest and most desirable attainment possible to an educated physician. The sick are not cured by knowledge alone. But knowledge joined with gentleness, tact, amiability and sincere sympathy is invincible. The true ideal for a medical man is to become a bringer of peace to those entrusted to his care, rather than to acquire a store of worldly goods by commercializing his work among his people. Three hindrances to this ideal are ignorance, superstition, and incompetence; ignorance on the part of the public of the basic motives which have caused unselfish physicians to assume their life-work of personal sacrifice and responsibility for the good of others; ignorance concerning the benefits of prevention rather than the cure of disease. Notwithstanding the claims to enlightenment there is a taint of absurd superstition corrupting the mental processes of multitudes of people. Incompetence among medical men is an ever-present danger to the public. The most important problem concerning the dignity and material welfare of the medical profession to-day is to convince men, women and children that we as physicians strive to be helpful and to protect them from disasters following ignorance, superstition, disease and incompetency; that we desire to advance the standard of preliminary and scientific education of all physicians so that competency may be rewarded and incompetency be rejected by the public. Let us all open our minds to truth wherever found; our hearts to its disciples under whatever name they may be known, and as the highest object of our professional lives strive only to be bringers of peace to our fellow men.

Sanitary Science and the Social Evil

REV. FLOYD W. TOMKINS, D.D.: This evil is becoming so tremendous that a man must recognize that he fulfills his duty neither to God, to man, nor to himself unless he looks into it, and studies and plans to see what can be done. I count it a privilege to say a few words as a minister who has long been interested in this subject, and to urge on you the eradication of this disease in comparison with which the spread of tuberculosis is as nothing. This is not merely a general question of purity or impurity. Let me give you an illustration which is only one of a thousand which could be given and one of which I have direct knowledge. A young man married, though infected with this disease. His health soon failed, tuberculosis developed, and he was about to die. On his death bed his wife said to him: "You have poisoned my body and ruined my life, and I pray God that in hell your mind may suffer just retribution." That is not an isolated case. We ministers know about cases that make our hearts ache and yet we are absolutely helpless in the vast majority of them. What can you and I do practically about it? Cannot we at first educate those with whom we come in contact? Cannot we put aside that modesty to which, God knows, we would like to hold to ourselves? Most of us would be glad to go back to the innocence that we had in our childhood. Why should we not urge on mothers that they teach their daughters concerning this evil, teach them not only to be pure in mind and body, but warn them of this terrible evil which is spreading through the land with such fearful results. Much can be done in this and other directions if we will only be honest enough, fearless enough, high-minded enough to recognize our responsibility.

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* Osler: Practice, 6th edition, page 926.
† Church and Peterson: Nervous and Mental Diseases, 6th edition.

(To be continued)

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Twenty-Second Annual Meeting, Held at Fort Wayne, Ind., Sept. 21-23, 1909

(Continued from page 1122)

Surgical Treatment of Tumors of the Bladder

Dr. John W. Keefe, Providence, R. I.: The surgery of tumors of the bladder is in a transitional state. The last word has not been said. While the perineal and vaginal routes have been abandoned by most surgeons, some now prefer the urethral, while others the suprapubic extraperitoneal, and yet others the abdominal intraperitoneal route, or a combination of both. The medical treatment of tumors of the bladder is often prolonged until surgery is of no avail. The suprapubic operation is the method most frequently employed at the present time, although the abdominal intraperitoneal route has many points in its favor. It gives one plenty of room in which to operate, and one can see exactly where to excise or cauterize the growth. The choice of the anesthetic is important for consideration in the removal of bladder tumor, as the patients are often found in a debilitated condition from loss of blood, sepsis or diseased kidneys. Nitrous oxid gas and oxygen are preferable on account of their safety and the non-irritation of the kidneys. The operation may be rapidly performed, and takes much less time than it does to describe it.

DISCUSSION

Dr. C. C. Frederick, Buffalo: I have operated on three patients for malignant disease of the bladder. In the first case, which occurred six or seven years ago, the tumor was located in the posterior wall of the bladder, in women, just back of the trigone. Following the removal of the tumor she made a good recovery, went on for two or three years, and I supposed was going to get perfectly well. But she had a recurrence to the left side of the original scar. She did not have a secondary operation, and eventually died of anemia.

Dr. Ernst Jonas, St. Louis: With the cystoscope we are able to decide the size of the tumor, but not its character.

Dr. M. I. Rosenthal, Fort Wayne: In a case of cancer of the uterus, which involved the bladder, I did a radical operation for the removal of the uterine cancer, also removing a piece of the bladder in a woman of 58. She is still in fairly good health.

Chylous Cyst of Iliac Mesentery

Dr. Charles E. Condon, Buffalo: The patient in this case was a boy, 5 years and 11 months old. The usual incision for an apppendix operation was made. On opening the abdomen a tense cystic tumor presented, which resembled an ovarian cyst, but was more elastic and had the color of omentum. On enlarging the abdominal incision, the tumor was found to be the distended iliac mesentery, beginning about eighteen inches above the ileocecal valve. It was ovoid, with a valley lodging the bowel, and dwindling toward the posterior mesenteric attachment into a wedge-shaped separation of the mesenteric layers. The ileum corresponding to the mesenteric cyst was compressed into a white cord, while above it was distended. After incising the cyst, about two quarts of milky fluid gradually drained away, there was a reduction of tension, allowing the vessels of the bowels to fill and the pallor to disappear, while the relief of pressure caused the lumen of the bowel to become patulous, and the distention above passed away. The cyst was sutured to the abdominal incision, and was drained by a rubber tube held in place by a stitch; otherwise the abdominal incision was closed with through-and-through sutures of silkworm gut. The relief was almost immediate.

DISCUSSION

Dr. Miles F. Porter, Fort Wayne, Ind.: In one case, on opening the abdomen, I found that I had a volvulus to deal with, but in unravelling the volvulus I found that it was due to chylous cysts of the mesentery. The gut was resected, but the patient died from the continued progress of the peritoneal infection.

Dr. Ernst Jonas, St. Louis: In regard to intestinal obstruction, produced by chylous cyst, I wish to emphasize the importance of not giving medicines with a view to relieving such intestinal obstruction when it is caused by these cysts. We should never try at this stage in surgery to remedy ileus by medicine, which we give to patients by mouth, as it is impossible to accomplish anything by them in any case of true obstruction.

Dr. A. H. Ferguson, Chicago: I have never encountered a chylous cyst of the mesentery in my surgical experience, and I think it is well for us in discussion of such papers to point out the relative infrequency of these cases.

The Embryo Abdominal Surgeon, with Inadequate Preparation and Knowledge

Dr. J. Henry Carstens, Detroit: In every large center, say the county seat, there ought to be a hospital and a surgeon, or surgeons, who not only have picked it up but who have been prepared for the work by a thorough course of hospital training; and it seems to me that these men should limit their practice to surgery, and not compete with their colleagues. State boards should take up this question and issue a special license to those who want to practice special lines of surgery. In conclusion I would say: 1. Abdominal surgery by embryo surgeons should be prohibited. 2. Thorough preparation in a proper hospital, as an assistant for one year, should be the minimum requirement. 3. Those who want to practice abdominal surgery should furnish evidence of qualification. 4. Nothing herein contained should prevent any general practitioner from doing abdominal surgery in an emergency.

When Shall We Operate for Ruptured Ectopic Gestation?

Dr. R. R. Huggins, Pittsburg, Pa.: It has been my custom always to delay operation for a few hours in ruptured tubal pregnancy when all signs pointed toward a temporary cessation of the hemorrhage. In the vast majority of instances the hemorrhage has ceased temporarily when the consultant is called. The length of time which has passed since the hemorrhage begun varies. The attending physician will usually say that when he first saw the patient she was in a state of collapse, but that now, that is several hours later, there is some improvement. The pulse is slightly better, the air hunger has disappeared, etc. A pulse which was hardly perceptible when he first saw the patient is now easily counted and is of better volume; reaction has already begun. The formation of a clot in the pelvis has plugged the bleeding point and the force of the blood stream is now so low that for a time, at least, there is little danger of recurring hemorrhage. Who can say, and by what means are we to determine, how long this period of apparent rescue from death by Nature's efforts may continue? Doubtless in many cases hemorrhage does not recur, but my experience convinces me that some further advance must be made in diagnostic skill before it can be said that hemorrhage, severe, and even fatal, may not recur in a given case. A series of experiments on 50 dogs showed the coagulating time of the blood to average 3 minutes 28.10 seconds. The average time in 50 normal individuals taken by the same instrument was 6 minutes 45 seconds. There is a considerable difference in the time of coagulation of the blood of the dog as compared to the human. There is undoubtedly greater protection against continued hemorrhage in the dog because of this rapid coagulability of the blood. We all know that owing to the increased blood supply to the pelvic organs during pregnancy a small wound made in the uterus or in fact in any part of the pelvis will bleed profusely. Without careful consideration of these facts, experiments on animals in the study of this subject are of no practical importance. It is irrelevant to compare hemorrhage from other parts of the body to that which occurs from the torn vessels of a congested pregnant tube.

Recent papers advocating delay in operation have served an important purpose, because they have emphasized the fact that the patient usually rallies from the primary hemorrhage and that it is unnecessary, as a rule, to operate while the patient is in extreme shock. It is undoubtedly true that in a large percentage of the cases a few hours can be well spent in allowing the patient to react so that operation will be attended by less danger. That it can be postponed indefinitely without great risk to the patient has not been true in my experience.

DISCUSSION

Dr. H. W. Longyear, Detroit: There should be no hesitation on the part of the surgeon in regard to the necessity of operating immediately in cases of recent ruptured tubal pregnancy.

Dr. Hugo O. Pantzer, Indianapolis: Standing as we do in this class of cases oftentimes in the presence of doubt, when life is menaced, we cannot decide otherwise than to chance it with the doubt in favor of an operation.

Dr. W. H. Humiston, Cleveland: To me delay is dangerous doctrine. There should be very little trouble in making a diagnosis of ruptured ectopic pregnancy. If the rupture is sufficient to cause shock one cannot tell whether the shock will be overcome or not, and I do not hesitate to operate on all these patients who come into my hands whether they are in shock or not.

Dr. Thomas B. Noble, Indianapolis: It is bad teaching to advise delay in operating in cases of ruptured ectopic pregnancy. When Dr. Robb advocated procrastination, I said that some women would die as the result of such teaching. I wish to subscribe *in toto* to the advice given by Dr. Huggins, and to affirm that these patients should be operated on immediately.

Dr. A. B. Miller, Syracuse, N. Y.: We should not procrastinate in operating in these cases of ruptured ectopic pregnancy promptly. In over a hundred patients operated on immediately I have only lost three.

Dr. John Young Brown, St. Louis: I have seen a number of cases of ectopic pregnancy, and I have not been able to reason out from this experience why gynecologists should differ as to the proper time to operate. With modern methods of combating shock, and particularly by the use of salt solution by hypodermoclysis and by the method which Andrews has accentuated in the treatment of gunshot wounds in which the hemorrhage is severe, namely, buttonholing the upper abdomen as soon as the abdomen is opened, and starting the salt solution to flow immediately on the opening of the abdomen, a large majority of these patients can be saved by prompt action.

Dr. Albert Goldspohn, Chicago: Of 80 cases of ectopic pregnancy that I have dealt with in one way or another, I have only known of 2 patients to die from this affection who were not operated on.

Dr. C. C. Frederick, Buffalo: I have operated on about 130 or 140 patients with ectopic pregnancy in my city; 5 per cent. of these have been rapidly bleeding cases, and the other 95 per cent. were cases in which rupture had taken place and there were symptoms of recurrent bleeding extending over a period of 2, 3, 4 or 5 weeks, or even 6 months. I have operated on women who have had recurrent hemorrhages five or six months after the primary rupture. I recall one case in which hemorrhage stopped, the woman did not have another rupture, and she was not operated on. All things considered, I am in favor of early operation in cases of ruptured ectopic pregnancy. I believe we should insist on stopping hemorrhage in these cases, as well as bleeding which may take place in any other part of the body, namely, by tying the bleeding vessel and stopping the hemorrhage.

Dr. M. I. Rosenthal, Fort Wayne, Ind.: It has been my practice to operate on these cases of ruptured ectopic pregnancy as soon as the diagnosis is made. In all the cases that I have diagnosed early and in which I have operated, there have been no deaths, but in those that were operated on late I got a mortality in each case.

Dr. E. Gustav Zinke, Cincinnati: It is just as wrong to say that every patient with ectopic gestation must be operated on as it is that every case of this nature does not need operation. There are patients who recover without operation. This should not be forgotten. Most gynecologists probably know of instances in which operation has been proposed with counsel and without counsel, was refused by the family, and patients have recovered, and they had the laugh on the operators. I agree with Dr. Robb, and I must protest against operating in every case of ruptured ectopic pregnancy.

Dr. J. Henry Carstens, Detroit: If a woman is suffering from internal hemorrhage, as that from a ruptured ectopic pregnancy, she ought to be operated on promptly. I believe in operating in these cases promptly.

Rupture of the Uterus

Dr. Ralph W. Lobenstine, New York: Ruptures of the uterus during labor may be divided into complete, and incomplete ruptures of the vaginal vault. Of the 78 cases in a series of 78, at the New York Lying-in Hospital, there were 46 complete ruptures, 29 incomplete, and 3 ruptures of the vaginal vault. The etiology of the complete ruptures was as follows: (1) Spontaneous ruptures were due to pelvic contraction in 21 cases; Cesarean section scar, 2 cases; scar tissue after amputation of cervix, 1 case; transverse presentations, 3 cases; and hydrocephalus, 1 case. (2) Traumatic ruptures were due to high forceps, in 3 cases; internal podalic version, 5 cases; *accouchement forcé*, 6 cases; and embryotomy, 1 case. (3) Ruptures due both to version and transverse presentation, 3 cases. It is noteworthy that the large percentage of complete ruptures occur in multiparæ, and especially in patients in whom the uterine musculature has been weakened by inflammation.

The common location for the rupture is the lower uterine zone. There are two fundamental types, the longitudinal and the transverse, but there is often more or less fusion of these types. In the list there were 26 that probably started as the vertical type, and 20 as the transverse. Of the 26 longitudinal tears 18 occurred on the left side, 6 on the right, and 2 near the mid-line. Of the 20 transverse ruptures, 13 occurred on the anterior wall and 7 on the posterior. In the presence of a dystocia, especially in the generally contracted pelvis of moderate grade, as the lower zone becomes thinner and thinner, and more and more distended, the lower portion of the cervix tends to become imprisoned between the fetal head and the pelvic brim. At the same time the contraction ring assumes a high level, and acts as the upper fixed point. The lower zone finally has to give way, if relief is not at hand. The symptoms are: (a) Premonitory; (b) the signs of shock and hemorrhage, with or without the development of sepsis. The child only escapes into the peritoneal cavity in about 15 per cent. of cases. Of the 46 patients treated in the hospital, there were three with rupture at the uterovaginal junction. Such ruptures are seen most frequently as the result of transverse presentations, and of trauma due to faulty instrumentation. The posterior vaginal vault is injured more frequently than the anterior. The spontaneous ruptures are due to a tremendous distention and stretching of either anterior or posterior vaginal vault. The pelvic contraction is usually of high grade.

Incomplete ruptures of the uterus may be either spontaneous or traumatic, and either vertical or transverse. The common traumatic causes are *accouchement forcé*, forceps, version, extraction of the after-coming head, and embryotomy. Rapid dilatation in placenta prævia centralis gave the greatest number of ruptures of this type. The spontaneous ruptures usually depend on old scar tissue in the cervix or vaginal fornices.

The maternal mortality in the list of 78 cases was 53.8 per cent.; the fetal mortality was 70 per cent.

The treatment of incomplete ruptures consists of tamponage alone or with sutures; rarely laparotomy.. Treatment of vaginal vault ruptures comprises tamponage or laparotomy, with suture of laceration, rarely hysterectomy. In complete ruptures, if the child is free in the peritoneal cavity, an abdominal section should be performed. If the child is still in the uterus, and the tear is a bad one, the woman should be delivered at once, by using tamponage or doing hysterectomy on the spot. The patient should not be moved. If the child is still in the uterus, and the tear is not a bad one, it will be best to move the patient to hospital before delivering. When the diagnosis is first made, after delivery of the child, tamponage may be relied on, if the patient is in good condition. A laparotomy is useless in the presence of severe shock.

DISCUSSION

DR. E. GUSTAV ZINKE, Cincinnati: Rupture of the uterus from purely obstetric causes should not occur in the hands of any one who knows obstetrics. I am referring now to rupture of the uterus, due to delayed labor, the result of an obstruction which is encountered in the passage of the child, and such ruptures should be wiped from the records. Knowing the doctrine of narrow pelves, as we understand it now, no man has a right to carry a patient to the verge of rupture of the uterus, as the clinical picture which brings the threatening danger is so clear that no man can possibly overlook it. The man who has taken the history of his case and studied his patient carefully will know in advance whether he has trouble to look for or not, and he will be on his guard and look for the symptoms indicative of rupture.

DR. EDWARD J. ILL, Newark, N. J.: I want to speak of rupture of the uterus, which is produced by the application of forceps high up, in a case of non-retracted cervix. Let us make a difference between the two. A dilated cervix does not mean a retracted cervix. The forceps, as a rule, should not be put on the fetus until the cervix is retracted. This is an old rule, and is little followed.

DR. R. W. LOBENSTINE, New York: I agree with Dr. Ill. The application of the forceps high up is responsible for a large amount of damage.

Calcareous Degeneration of the Fibroid Uterus

DR. WALTER B. DORSETT, St. Louis, read a paper on this subject and presented the specimen:

On opening the abdomen the tumor was found lying loosely in the pelvis and unattached. On grasping the mass I was reminded of the sensation usually imparted in the handling of uterine fibroids with a long pedicle. A supravaginal amputation was done, and the abdomen closed within a few minutes. The patient made an uninterrupted recovery and left the hospital within eighteen days, well, and relieved of her distressing symptoms. The ligation of the renal artery of the rabbit by Litten and his subsequent discovery of deposition of calcium salts in the renal tubules, probably proves that the true etiology of calcareous deposits lies in a retrograde process due to deficiency of blood supply. It can be readily seen that during the normal atrophic changes in the uterus, due to decreased determination of blood toward the uterus, degenerative changes are apt to occur.

DISCUSSION

DR. J. HENRY CARSTENS, Detroit: Thirty or more years ago a woman came to the dispensary with fibroid tumors. At that time we did not operate on these tumors so frequently as we do to-day. She was not operated on then. About five years ago she presented herself with three tumors which were jammed in the pelvis, causing obstruction of the bowels and bladder. I operated on her, removing one tumor about six inches long, and four inches in diameter. These tumors were so hard that I could not cut them open, but had to split them with a hatchet to show the calcareous deposits. No matter how long these cases are allowed to go, these tumors will either undergo calcareous degeneration or become malignant, so on general principles all fibroid tumors ought to be removed.

DR. HUGO O. PANTZER, Indianapolis, reported a case which was similar in every respect to the one related by the author of the paper.

Ovarian Pregnancy at Term

DR. WALTER C. G. KIRCHNER, St. Louis: The clinical symptoms were those associated with tubal pregnancy. At a later stage the patient had the usual symptoms attending uterine pregnancy at term. The tumor mass originated in the right ovarian region, and as pregnancy advanced the tumor was pushed toward the left side. The patient felt fetal movements about the fifth month of pregnancy. The condition was complicated by prolapse of the uterus with pronounced edema of the cervix. The patient consented to operation, and in doing a laparotomy a cyst-like tumor was delivered through the abdominal opening. The mass resembled an ovarian cyst, and contained the fetus. This was found to be full term and well developed. It was easily resuscitated and is in good health. The tumor mass was complicated by omental and intestinal adhesions. The appendix was adherent and appendectomy performed. The left tube was free. The right tube was incorporated with the outer surface of the gestation sac. The ovarian ligament was connected with the gestation sac. The sac originated in the right ovarian region, where a broad pedicle had formed which was ligated and severed. In this region also the main blood supply was obtained. The gestation sac contained the placenta and fetal membranes. The placenta was not associated with either tube and was free in the abdominal cavity. It occupied a central and anterior position in the gestation sac. The diagnosis of ovarian pregnancy was based on the presence of the utero-ovarian ligament, the normal condition of both tubes, the location of the tumor, and the microscopic evidence of the examination of the gestation sac. Mother and child are living and in good health.

DISCUSSION

DR. E. GUSTAV ZINKE, Cincinnati: Ovarian pregnancy is a very rare thing, and I am glad we have brought before us a case which leaves no doubt in our mind as to its real character. It is remarkable what Nature will not do under these circumstances when the ovum is implanted ectopically. The most frequent cases of ectopic gestation which go to full term are those in which the tube holds out to the last. It is comparatively rare, it is true, but these are the cases in which there are no adhesions between the abdominal viscera and the ectopic gestation sac. The next in frequency is the ovarian, but here very often rupture takes place because of the brittle character of the ovarian tissue. There is another variety of ectopic gestation which goes to term, but which is the rarest of them all, and that is, in cases of tubal rupture, or in tubo-ovarian pregnancy rutpure takes place sufficiently to permit the amniotic sac, with the decidua reflexa, which is formed under these circumstances to escape into the abdominal cavity. Here the placenta continues to grow within the tube or ovary, as the case may be. Sometimes it makes its way outside of the structures and implants itself on the pelvic wall. Occasionally it happens that the membranes are broken because of the movements of the fetus, and then the fetus is found free in the abdominal cavity.

DR. ERNST JONAS, St. Louis: I recall a patient operated on by Dr. Tuholske when I was assisting him, in whom in the second month of pregnancy the entire ovum was swept away from its seat of implantation in the right tube, into the free abdominal cavity, implanted itself in the region of the liver, changed the liver tissue, the peritoneum covering the kidney, and parietal peritoneum to such a degree that it was able to change these tissues to true decidual tissue. The pregnancy went on to term and the child was removed at the end of pregnancy alive. The mother died twelve hours after the operation. We did not know at the time why she died. The specimen which we have in our possession shows that it would have been impossible to have removed the placenta by force from these organs.

DR. A. B. MILLER, Syracuse, N. Y.: In the pathologic museum of the college in Syracuse a specimen has been recently placed of an ovary which contains an ovum perhaps of two months' development. The patient was operated on by a neighboring surgeon, he supposing he was simply dealing with an ovarian cyst. The patient had been complaining of more or less pain, and on examination a small globular mass was found in the pelvis. Without taking the history of the patient as to the possibility of this being a pregnancy, the woman was operated on, the ovary removed, and found to contain this small embryo.

(To be continued)

MICHIGAN STATE MEDICAL SOCIETY

Forty-fourth Annual Meeting, held at Kalamazoo, Sept. 15-16, 1909

(Concluded from page 1123)

The Physician and the Antituberculosis Campaign

Dr. A. S. Warthin, Ann Arbor: This paper treats of the changing attitude of laymen toward medicine, of the popular demand for preventive medicine, and of the increased knowledge of the laymen concerning matters once supposed to be the property of the physician. As a result of this change, the profession of medicine is also undergoing an evolution from a science and an art professing to cure, to a science of prevention of disease. The physician of the present day must meet this changed attitude. His duties become no longer those relating to his immediate patients; but he must concern himself with the broader questions of public health and the fight against preventable diseases. In modern health board work, in school inspection, in antituberculosis work, in the fight against venereal diseases, the physician finds a legitimate field for activity. The increasing medical knowledge among the people at large demands that the physician lead these movements in the prevention and extermination of diseases. There is a growing tendency for people to consult physicians as to the state of their health and what things should be avoided or prevented. The physician must meet this new conception of medical practice or fall behind. In the fight against tuberculosis he must especially take a leading and important part.

Diagnostic Value of the Hemolytic Tests in Cancer and Tuberculosis

Dr. Frank Smithies, Ann Arbor: This work comprises observations on 158 individuals affected with various ailments, and clinically well. Apart from the cancer cases, particular interest is attached to the findings in the cases of tuberculosis, syphilis, the anemias and the diseases associated with anemia. In the clinical diagnosis, of 31 cases of malignant disease, there were 14 positive, 10 negative, 4 reverse and 3 undetermined. Of 3 cases of benign tumor, the results are, 0 positive, 3 negative, 0 reverse, 0 undetermined. Of 45 cases of tuberculosis, there were 2 positive, 27 negative, 5 reverse and 11 undetermined. Of 19 cases of syphilis, there were 4 positive, 11 negative, 0 reverse and 4 undetermined. Of other diseases, there were 36 cases, 5 positive, 20 negative, 2 reverse and 9 undetermined. Of normals, there were 24 cases, 1 positive, 23 negative, 0 reverse, and 0 undetermined. While the main mass of data is at present for any single class of disease, yet the large number of cancer cases showing this reaction should urge us to seek modifications of the method in the hope that study of various sera along other lines will lead to the firm establishment of a specific reaction for cancer and other diseased conditions which seem to have specific pathology.

DISCUSSION

Dr. Victor C. Vaughan, Ann Arbor: This work on hemolysis and the use of hemolytic tests stands on a very uncertain foundation. Work has been done recently in Wassermann's own laboratory which seems to show conclusively that the hemolytic test is due to the presence of a ferment, and all this talk about amboceptors, complements, etc., is dependent on the acidity or alkalinity of the reaction. He is somewhat uncertain about the outcome. We know a great many more things about cancer than we knew years ago, and the medical profession is making some progress, and I think we may reasonably hope that the time will come when cancer will be cured not by any serum, or by any injection, or anything of that kind, but when we may reasonably expect that after operable cancer has been removed by the knife, a return of it may be prevented.

Dr. Hugo A. Freund, Detroit: The subject of hemolysis interested me a number of years ago in the direction of the presence of hemolysis in pernicious anemia. At that time I determined the hemolysins in the urine of individuals with that disease. One of the first things was their persistence; at times they appeared one day and were absent the next. In going over the work one fact struck me, and that was there is no uniform method of estimating the hemolysins. The method suggested by Crile is open to many criticisms. The one of Richard Weil, which appeared later, is as good a test as can be used. The results not only vary in accordance with the tests used, but the personal factor has much to do with the study. I am surprised at Dr. Smithies' results in tuberculosis cases, as other reports are contrary to his findings, especially the recent reports of Ottenberg of New York, who finds a degree of hemolysis in cases of advanced tuberculosis. There seems to be some relationship between agglutinins and hemolysins.

Dr. F. Smithies, Ann Arbor: My method in general was that of Weil. I have tried the Eppstein method, and the method suggested by Crile frequently as controls. Weil's method seems more reliable. With regard to the relation of hemolysins to agglutinins, practically I know little about the subject other than what I have read and work which I have done. Perhaps my list of reverse hemolysis was rather small because I had very few late cases of tuberculosis. In the moderately advanced cases, the degree of reverse hemolysis was more marked than in the localized infections. These cases were associated with anemia, fever and cachexia.

Landmarks in the Diagnosis of Incipient Tuberculosis

Dr. Elmer F. Otis, Battle Creek: The signs and symptoms that are not positively diagnostic are the family history, the cough, expectoration, night sweats, the diaphragmatic excursions and the so-called phthisical chest. The uncertain factors that are perhaps given undue importance are dull areas on percussion, cavernous resonance, hectic flushings, one or two negative sputum examinations, *x*-ray examinations, history of excesses in vital and procreative functions or the various vices. The findings that must determine the real diagnosis are the demonstration of tubercle bacilli in the feces and sputum and a possible early hemorrhage. Spasmodic fluctuations in vasomotor phenomena or bodily temperature. History of failing health, with loss of weight and appetite; a rapid and irritable heart even when the patient is at rest. Anemia without leucocytosis, but a strong tendency to blood dyscrasia, such as hemorrhages, nose-bleed, disorders of menstruation and vasomotor disturbances. The eye and percutaneous tuberculin tests are of real, but debatable merit. Last, but not least, are auscultatory findings.

Dr. T. M. Koon, Grand Rapids: The public is beginning to learn the importance of early diagnosis of tuberculosis. Physicians throughout the State of Michigan can render a great service along the lines of prevention of tuberculosis by diagnosing these cases earlier. Every man who is doing more or less special work along this line has occasion to see patients who are in the advanced stages of tuberculosis and who have been cared for by physicians for months without knowing they had this disease. Therefore, it is highly important that the profession should appreciate the fact that the public is going to call on them to make these early diagnoses. I would urge the importance of taking a careful history in all cases. During the last few years the profession has got away from the idea that heredity plays any part in tuberculosis, and the public has become educated to a certain extent along that line, but a great many of the leaders of the profession are getting back to the idea from personal observation that the children of tuberculous parents inherit a predisposition to that disease, and they are more likely sometimes during their lives to contract tuberculosis than the children of parents who are not tuberculous. I have diagnosed early a number of cases of tuberculosis with the skin test. It is easy to apply and is harmless. This test is being used by the leading men all over the world, and its findings are valuable, so that in all cases in which our suspicions are aroused, and in which we do not find the tubercle bacilli in the sputum, we should resort to the tuberculin test before dismissing the patient.

Dr. Victor C. Vaughan, Jr., Ann Arbor: The taking of the family history is very important. In fact, in the diagnosis of incipient tuberculosis everything is important, and we must use every means in our power which will furnish any knowledge or information. The diagnosis of early tuberculosis is very important. Not infrequently other individuals in families in which there may be cases of tuberculosis come to us before they have any symptoms apparently of the disease. They may take cold easily, or they may feel a little run down, may have lost a little weight, or look a little pale. They have no cough, and they come to us to know whether they are in good health or not. In these cases a physical examination is practically negative, that is, it is very hard to detect any signs or symptoms. I believe the diagnosis of incipient tuberculosis can hardly ever be made unless the patient is watched carefully for a certain interval of time. More stress should be laid on slight rises in temperature, and on accelerated pulse. It is difficult to get these slight rises in temperature and of increased pulse, and for that reason it would be a good thing if these patients could go to hospitals, say for a period of three or four days for purposes of observation, and at the end of that time a positive diagnosis could probably be made. One of the most useful adjuncts is the use of tuberculin in the diagnosis of early cases. This may be administered subcutaneously, percutaneously, or in the eye. I prefer the ocular reaction. I cannot agree with Dr. Koon as to the reliability of the skin reaction; I have obtained it in control cases, and one may say the subjects are tuberculous, but they show no evidences of it. It is much easier to prove a patient to be tuberculous rather than non-tuberculous. In no case in which I have obtained a definite ocular reaction have I failed on observation to find undoubted evidences of tuberculosis in 250 cases. Of course, there are certain cases in which the eye reaction does not work, or no reaction is obtained.

Dr. B. R. Shurly, Detroit: The medical profession has great responsibility in the early detection of these cases. These patients are always with us. They are so numerous that it is almost astonishing to any one, who is working on this problem, to see how frequently we can demonstrate active signs of tuberculosis. There are certain definite lines of procedure in regard to the early diagnosis that I have found very helpful in elucidating some obscure or unusual lesions. It is important in examining the chest to have the clothing removed. Many practitioners in examinations of the chest do so through a little opening, and no endeavor whatever is made to reach the back which in my opinion is the all-important part in the diagnosis of this disease. I much prefer to have the percussion and auscultatory signs from the back than from the front of the chest. We know definitely where the lesions are more frequent, and these particular areas should be given more careful investigation. A routine examination should be made of the sputum. The newer tests are useful in detecting the early cases of the disease. The skin reaction in my opinion is of no value except in very early infancy, but the eye reaction is of considerable value in many doubtful cases. Observations should be carefully directed to the temperature. Examination of the throat and larynx offers considerable additional information as to the location of any possible lesions explaining early invasion in those regions.

Dr. J. Collins Johnston, Grand Rapids: We get our information from auscultation in these early cases; but we cannot make a diagnosis as a rule, with one examination. It is necessary to have these patients come to us from time to time, furnish them with thermometers, and have them take their temperatures every two hours for two or three days. I teach them to do this, and then we can get information about rises in temperature. The skin test is of inestimable value in a negative way.

Dr. Frank Smithies, Ann Arbor: If the eye reaction and skin reaction show the presence of a previously active tuberculosis, it does not necessarily mean consumption. There may be a tuberculous focus somewhere, and it is the physician's duty to find out where that focus is, and the only way to do so is by a thorough and careful physical examination. The tuberculin method of Koch is of more value in localizing infection and telling a patient he has consumption than any special reactions that may be mentioned.

Dr. Donald, Detroit: Has Dr. Shurly seen any unpleasant sequelæ from the ocular reaction?

Dr. Shurly: I have never seen any marked reaction in the way of a purulent discharge from the eye.

Urinary Infections; Treatment by Inoculations

Dr. W. T. Dodge, Big Rapids: Vaccine therapy has not been used extensively by many general practitioners because of the supposed necessity of regulating dosage by the opsonic index. In most cases the symptoms of the patient are a safe guide to the administration, and when the index is taken and does not correspond with the symptoms, it is safer to be guided by the symptoms. In sixty cases, nearly all of urinary infection, all the patients were treated with vaccines without index. Many cases were of several years' duration, in which the urine contained large quantities of pus, and which had resisted all local and general treatment. There were of *Bacillus coli communis* infection, 41 cases; mixed *B. coli communis* and *B. pyocyaneus*, 4 cases; mixed *B. coli* and streptococci, 1 case; mixed *B. coli* and micrococci, 3 cases; *B. pyocyaneus*, 8 cases; streptococci, 1 case; *Staphylococcus pyogenes aureus*, 2 cases; *Staphylococcus pyogenes albus*, 1 case.

The work was all done at the laboratory of Mercy Hospital, but the patients were under the charge of several different physicians, and the period extended from February to September, 1909. Twenty-three patients have been cured; 37 are still under treatment, the germs still existing in urine, but in every patient under treatment more than thirty days' symptomatic cure has taken place. A few of the patients had no pus in the urine, but had indication of infection at other places in the body. Many cultures of the urine have been made in cases of known infection in which the urine was normal chemically and microscopically, and in every instance the germs causing the infection have been obtained from the urine. This I consider a valuable diagnostic point in infectious diseases and one that should be followed up by other observers. Two cases of acute infection were treated, one of the colon bacillus, the other of the streptococcus, with highly satisfactory results.

Mind Cures in General and the Emmanuel Movement in Particular

Dr. Archibald Church, Chicago: Mind healing or psychotherapy is older than the story of the Garden of Eden; it is contemporaneous with the Garden itself. In olden times, the priest and physician were one and the same. Whether it was the priest of Apollo or the followers of Æsculapius, or as the medicine man in Dakota, medicine and religion went hand in hand. The influence of the mind as affecting the human body for better or worse has been known ever since men have congregated, and the influences which have dominated one and another sort of mind cure have been identical since the beginning of the world, and these influences have been exercised along rather definite plans to the attainment of a single end. That is to say, in all schemes of mind cure, whether it be scientific psychotherapy, hypnotism or the iterative vagaries of Christian science, they have all been exercised in two ways: the one establishing expectancy of improvement by the incubative method, the other by asserting better, helpful, hopeful and healthful things by the method of iteration or continued suggestion. This process of expectancy, waiting for something and earnestly anticipating benefit, is commonly described as the incubative, like the hen sitting on the egg, lives in hopes, and the sick individual always hopes and continues to hope. It is the keynote of all forms of mind healing, of all forms of psychotherapy—hope, eternal hope. The other plan is to have those who feel sure of their ground, or who are convinced that certain plans are beneficial, to insist constantly on these facts. By this iteration, the groove of health is established. In this suggestive purpose you will see that it is the element of hopeful expectancy which is the key to the situation, and it dominates the music and paints the scene and tempers the entire atmosphere. New England has given us

Christian science, which has largely for its purpose the alleviation and cure of disease. It has cured disease and will continue to cure disease so long as people adopt a hopeful expectancy toward that end. This is not saying that Christian science cures organic disease. Christian scientists do not admit that they can cure cancer or broken bones or that inflammatory processes or infections are modified by this hopeful expectancy to any considerable extent. Undoubtedly, many vagaries of feeling and worries of the flesh are benefited by Christian science.

Those of us who live in Chicago have seen the rise and fall of what has been called Dowieism. Any conception which you may entertain of Dowie as a faker or a grafter, or a mere money-getter, is absolutely besides the mark. Dowie believed he was the inspired agent of the Almighty. He believed that to him were vouchsafed messages from the archangels. He was deluded. He was convinced that what he did was under divine direction, and that those who opposed him were animated by the devil. He was sincere. Had he not been sincere the movement which he fostered and built up would have fallen away promptly, but it was his own conviction, his own righteousness and power, that enabled him to gather about him such men as made up the leaders of his church. When in the latter stages of mental disease he became absolutely irrational and thought he saw the King of England coming in a ship bringing him an immense fortune, then his followers were willing to see his insanity. Every year of his life had been the natural result of a deluded mind.

Of two physicians of equal intellectual attainments, the man of buoyant character and helpful disposition and encouraging nature, is the better physician, and his results will be better and his opportunities for doing good will be greater because he inspires this mind cure unconsciously, he inspires this hopeful anticipation of improvement. The physician should understand the forces with which he works and the obstacles he meets and the means at his disposal to get the best results by the application of mind treatment in his daily routine. Pleasant thoughts mean good circulation and good circulation means better nutrition.

The Emmanuel movement had its inception in a party of social-service workers. Dr. Worcester had his attention called to the fact that many people did not know about consumption and could not only not benefit themselves, but did not know how to check the spread of the disease. The social workers were organized to get the people out of doors. They induced consumptives to sleep in tents or on porches or in back yards. It was a fine thing, but it was not appreciated. Dr. Worcester saw the Christian science churches building and increasing all over the land, and he may have taken a tip from that cult. The other regular Protestant denominations were decreasing in attendance. But Dr. Worcester saw the defects of Chistian science. People worry. They have a lack of self-control. They are addicted to vice. These people he got together in small classes and their self-control was stimulated by pointing out the need for it. There was a moral element in it. The neurasthenics were added later. These people had fears of insanity or fears of general nervous breakdown. He insisted that they be examined by a regular physician to make sure that there were no organic defects, and that the cases were such as he might reasonably hope to benefit. The church is in a transitional stage. I do not know how, or why, or whither the trend, but these are the facts, and these people who are now seeking help in the Emmanuel movement in a few years will have tired of it and the church will have lost in grace in the meanwhile, and it will have turned itself into a sort of free clinic, so that its dignity will be broken and its prospects for doing good greatly diminished. Moreover, I very much doubt whether clergymen, by training and temperament or by experience, are admirably qualified to deal with medical subjects. The essential requirements for the clergyman is to have belief, to have faith; in other words, to be credulous, and credulity and good judgment are not necessarily interchangeable. Clergymen are good men. They are honest men. They are helpful men. They are hopeful, they are credulous, and therein lies the weakness in the work of this sort conducted by them. Mental treatment or psychotherapy should be based on modern psychology. It admits intelligent application of its methods in order to secure the normal mental action which shall be manifest in normal physical control, and above all things it depends in these nervous and mental cases in the establishment of hopeful expectancy. The successful psychotherapist is born. If the physician does not feel sure of himself he can never administer psychotherapy with any considerable success. The whole thing may be summed up in establishing hopeful expectancy, and I am devoutly thankful to the man who has scattered broadcast through this land the placard that says, "Keep Smiling."

Transitory Insanity and Its Basis

Dr. Charles W. Hitchcock, Detroit: This paper has, first, to do with the transitory insanities pleaded as a defense in criminal cases rather than with *bona fide* transitory insanity as laid down by the text-books. Second, transitory insanity is of rare, not to say, doubtful occurrence. Third, more frequent than its *bona fide* occurrence is its allegation solely as a means to the end of avoiding just responsibility for crime. Fourth, its most frequently pleaded varieties, transitory frenzy, transitory mania, emotional insanity, have but little standing among the best psychiatrists. Fifth, epileptic excitement and confusion, while admitted to occur, is often without adequate basis pleaded as a cover for crime. Sixth, it is unworthy of the expert, unable to make and define clean-cut diagnoses in these cases, to inject vague claims of insanity into such cases for the purpose of creating such doubt as will befog a jury. Seventh, medical experts should be careful to prove themselves anxious to conserve rather than to defeat the law. Eighth, the medical expert should approach such cases with an absolutely unbiased mind, reach his conclusions scientifically, take a clean-cut and firm position, and maintain it with the courage of his convictions. Ninth, if, with the crime eliminated, the case presents no adequate evidences to warrant a diagnosis of insanity, such a diagnosis should not be made, for the crime may not be of itself sole evidence to warrant such a diagnosis. Tenth, the expert, especially in cases in which transitory insanity is alleged, should zealously guard against being a party to the further increase of the disrepute into which medical expert testimony and insanity as an easy defense of crime have already come.

The Urgent Need of Operating in All Cases of Hernia

Dr. E. B. Smith, Detroit: There is urgent need of operating in all cases of hernia, but in this paper I restrict myself to the more frequent forms, namely, those of the abdominal and pelvic regions. Not all cases of reducible hernia are free from adhesions or local pathologic conditions other than the hernial opening. Adhesions around the ring are numerous. The local conditions may vary to a marked degree. The hernial opening may be small, tight, irritable, predisposing the sac to a partial or complete strangulation when forced through the opening, or the opening may be large and may be increased by the force of the additional abdominal contents pushing its way through. The glands adjacent become hypertrophied and adherent from the continued irritation of hernia. We must warn the patient that he should be on the lookout for certain symptoms which are pathognomonic of strangulation, yet there is danger of strangulation not being recognized even by the medical attendant, as there may be no sudden onset, no characteristic local pain, no nausea, no vomiting and no tenderness, but there may be expulsion of gas or even a fecal evacuation. The local complications may be such as to require a resection of portions of the omentum which increases the mortality, and very often we are forced to do a resection of the intestine which brings a high mortality. In uncomplicated cases, when the surgeon and the patient have been prepared, the percentage of recoveries should be from 98 to 100 per cent. An important factor in the early operation for hernia is the opportunity given both the surgeon and the patient for preparation. Knowing that the hernia increases in size, the complications in number and seriousness, and that a grave, if not fatal condition, must be the result, and knowing the necessity of proper preparation, why should we delay a comparatively simple operation for one of greater magnitude?

Dr. Conrad George, Jr., Ann Arbor: Intestinal resection comes up in connection with hernia, and I think as our methods of aseptic resection are perfected, the mortality will come down a little.

Dr. F. W. Robbins, Detroit: I think the profession is negligent in allowing patients with hernia to pass through their offices without strongly advising operation. Two years ago, in my service at St. Mary's Hospital, I saw three patients with hernia die simply because they were neglected. One of these was a patient who had had hernia for twenty years. He thought he could keep it back with a truss. Sometimes he did, sometimes he did not. He came to the hospital and he thought the hernia could be reduced, and that he would not have to submit to an operation. A few days later, when the man was *in extremis*, I operated on him and found some 10 feet of rotten gut, and the belly filled with a bloody, purulent secretion; the man died on the table. Within two weeks of that time I had two other hernia patients. One was a woman, with a large abdominal hernia, the other a man with a small strangulated hernia that had ulcerated through into the intestine; he died. These were poor people; they were sent to the hospital as a last resort, and a hopeless operation was undertaken. The deaths of these patients were not due to the conditions after they were admitted to the hospital, but to conditions that might have been prevented had they subjected themselves to an earlier operation. Since that time I have felt it my duty, when a patient comes into the office with a hernia, and wearing a truss, to urge operation, in consideration of the small percentage of mortality from operations conducted at the proper time.

Dr. Bayard Holmes, Chicago: I feel that if an operation will cure a hernia quickly and permanently, it ought to be done at once. The skill with which the operation is done has a great deal to do with the permanancy of the operation. When I first saw hernias operated on, the operations were frequently made in such a way as to allow the wound to close by granulation, hoping in this way to get a more permanent recovery. Since antiseptic methods have been applied to hernia, to every other surgical operation, and when they have been wisely managed, these hernias, so fas as I know, have been permanently cured. Of course, there are recurrences, especially when trusses have been worn a long time, and the abdominal wall has an enormous defect. The recurrences under these circumstances are worse possibly than the original hernia. The time to operate on a hernia is when it has begun, and when the abdominal wall has the full amount of strength, which it does have before a truss has been worn.

Dr. William K. West, Calumet: I think in these cases of abdominal section, when the involvement is large, when there has been free drainage on account of infection of the wound, when the abdominal walls are much weakened, and postoperative hernia likely to result, then it is wise on the part of the surgeon, before the patient leaves the hospital and as soon as the discharge has ceased, to prepare the wound: that is, open up the peritoneum, dissect free the fascia, unite the fascial layer, thereby adding strength to the abdominal wall, and guarding against a possible postoperative hernia.

Acute Postoperative Dilatation of the Stomach

Dr. Alexander W. Blain, Detroit: In this paper I draw the following conclusions: 1. The so-called acute dilatation of the stomach is a disease of the fore-gut, in which the upper portion of the duodenum as well as the stomach is involved. 2. We should be very cautious in entering the abdomen for ileus when the swelling is in the upper part of the abdomen, without first passing a lavage tube. 3. We should make an examination of the abdomen in all patients suffering from gas after operation, abdominal or otherwise, and not trust to the routine treatment without first making a diagnosis of the parts involved.

DISCUSSION

Dr. B. R. Corbus, Grand Rapids: I have had the opportunity of seeing two cases of postoperative acute dilatation of the stomach in the last few months. These cases were very much alike; both were referred to me by Dr. Campbell of Grand Rapids. In one case the dilatation occurred on the second day after an operation for the removal of a pus tube. The patient had a temperature of 101 F., but the attention of the physician was directed to the great distention of the abdomen. He suspected peritonitis. On examination it was found that the flanks were flat, and I was called. The woman had a pulse rate of 140, and seemed to be *in extremis*. The stomach was washed out; we got three pints of fluid, after which the pulse dropped. The next morning the temperature was normal and the woman was on the road to recovery. She had never vomited. The other case was a typical one of acute dilatation of the stomach of less severity. Many of these cases go undiagnosed, and maybe it is only after the attention of the physician is called to the subject that he diagnoses these cases correctly.

Dr. Conrad George, Jr., Ann Arbor: I am interested in gastric lavage in this condition. According to Dr. Aaron, the use of smaller quantities of fluid should be advised in washing out the stomach in these cases. It is much safer to use a smaller than a larger quantity, the idea being to introduce a small quantity, and then the whole stomach can be emptied out. This is an important part in lavage of the stomach in cases of acute dilatation, as in using too large a quantity of fluid there is danger of overdistention of the stomach and possible injury to its musculature and death from that cause.

Dr Bayard Holmes, Chicago: There has been no account taken of the enormous quantity of fluid which appears so rapidly in these cases. This large quantity is either normally secreted by the wall of the stomach, and is ordinarily poured out into the small intestine, or else it is abnormal. The quantity seems to be so large that it can hardly be normal. I do not know what the normal amount is when the pylorus is obstructed, whether the stomach fills up with three or four quarts of fluid in two or more hours or not. But the cases I have seen have been marked by an enormous quantity of fluid going into the stomach at rather short intervals. You may empty it with a stomach tube, but in a few minutes, apparently, you have to empty the stomach again. My experience does not lead me to think that relieving the stomach in this way invariably cures acute dilatation. I remember one case in which, fourteen days after operation, I made a diagnosis of acute dilatation of the stomach. In this case an operation was done on the right kidney, and so far as I know was perfectly aseptic, but in spite of the fact that the stomach was emptied frequently of large quantities of fluid and an effort made to keep up the patient's fluids by enema and transfusion, the patient died after two or three days.

Dr. Frank B. Walker, Detroit: In one case I had acute dilatation occurred at the close of an operation for shortening the round ligaments in a young woman who was otherwise in good condition. In preparing the parts preliminary to closure, the stomach pushed out through the incision; it was returned to its normal position, and the case ended satisfactorily, and otherwise there was no more difficulty than in any other case. It was a surprise to me, as it was the first case of the kind I had seen, and it occurred so soon after the operation.

Dr. Mortimer Willson, Port Huron: I have known of a number of cases of acute dilatation of the stomach after operation, and in the past, when I was engaged in general practice, I had a number of such cases after parturition, in that there was sudden distention of the stomach shortly after delivery. Contrary to those cases that have been reported, in the majority of my cases the dilatation of the stomach was not due to the accumulation of fluid, but to the formation of gas. In some there were enormous quantities of fluid. It has occurred to me that this dilatation is due to a defect in the nervous tone. In a number of cases there was an extraordinary amount of secretion, but the dilatation was due to gas.

Dr. Blain: Dilatation of the stomach is a misnomer. It is a dilatation of the fore-gut, in which the pylorus plays no part, and most of the secretion comes from the upper portion of the duodenum rather than from the gastric glands. Dr. Walker's case is rather unique, and entirely different from others that have been reported, and it brings up one thing which I think is true, namely, that the etiology of these cases is different. Undoubtedly, this dilatation of the fore-gut has many etiologic factors. We have used too much fluid in washing out the stomach in the past. A half pint of saline solution or water, the use of bicarbonate of soda, or something of that sort, is much better than to use enormous quantities. No matter how much water is used, you cannot get it all out unless you lower the head of the patient and raise the pelvis, which is an important part in the treatment.

Subphrenic Abscess

Dr. **Frank B. Walker**, Detroit: Subphrenic abscesses are observable clinically on both the right and left sides of the upper abdomen. The signs of subphrenic abscess are in the main those of suppuration elsewhere, varying according to the source and route of infection. The constitutional symptoms are pain and tenderness in the upper abdominal region, chills, fever, immobile swelling, leucocytosis, thirst, disturbed nutrition and dyspnea. The course of subphrenic abscess is that of a complication of some other abdominal infection. One or more fossæ are invaded. From statistics, it is plainly evident that operation offers by far the more favorable prognosis. This pathologic condition occurs more often than it is discovered.

Sarcoma of the Ulna

Dr. **H. E. Randall**, Flint: The types of tumors of the long bones are the osteoma, fibromata, chondromata, sarcomata and rarely myelomata. Carcinoma is secondary. The cases in the older literature of cancer were metastatic hypernephroma. The other growths not included under tumors are osteophytes, hyperostosis, exostosis, due to irritation and myositis ossificans. Tuberculosis and syphilis must be excluded. Bone cyst is a degeneration of a pre-existing tumor in most cases. Some cysts are thought to represent the entire destruction of a sarcoma. Sarcomas differ greatly in malignancy. Even early amputation does not save some patients because of the early metastases in the lungs. Bloodgood, in over 100 cases of giant-celled sarcoma, found that no metastases had occurred. These patients had been treated by curetting, resection and amputation. Curetting may be all that is necessary. A mistake that has occurred is to diagnose a small-celled sarcoma for an inflammatory condition. Multiple myeloma is incurable. These cases are recognized by the *x*-rays when but one tumor is thought to be present or by finding the Bence-Jones bodies in the urine. Several examinations of the urine may be necessary to discover the reactions. The most malignant types of sarcoma are the spindle-celled and round-celled. In one of my cases the patient was cured by removal of the ulna. The ulnar nerve must not be injured. The functional result was satisfactory and the man was able to do all kinds of farm work. I am convinced that if an early diagnosis can be made, the radius, ulna, tibia or fibula can be removed and the patient escape the more mutilating operation of amputation. The diagnosis is to be made by snipping out a piece of the tumor which is submitted to the pathologist. T. W. Huntington found that the fibula would hypertrophy to such an extent as to become virtually as strong as the tibia, in a case of destruction of the shaft of tibia by osteomyelitis.

Hydronephrosis and Pus-Producing Infections of the Urinary Tract Complicating Pregnancy

Dr. **Clara M. Davis**, Lansing, Mich.: The patient in the case which I report was a multipara, aged 23, with a family history of tuberculosis. The important points are: 1. The family history of long-standing tuberculosis in the father, and abscesses and Bright's disease, with dropsy in the mother. 2. The importance of a correct history and the difficulty of getting it in this case, owing to the fact that the patient and family had settled on a diagnosis of miscarriage. 3. The relation of the traumatism to the disappearance of the hydronephrosis and the subsequent course of the case. 4. Psychotherapeutic treatment given by the mother with the coincident disappearance of pain, the sudden appearance at about this time of large quantities of pus in the urine, showing that cessation of pain was due, not to the mental treatment, but to the free drainage of pus, and illustrating how carefully cases should be scrutinized in which mental treatments are assigned as causes of relief of pain or cure of disease. 5. The importance for diagnosis of a microscopic examination of the urine in all cases of severe abdominal or pelvic pain in pregnant women. 6. Absence of bladder involvement throughout. 7. Benign course in the absence of any but the simplest treatment. 8. Normal character of the labor which occurred at full term, and the prompt convalescence.

Uterine Fibroids; with Report of Eighty-six Cases

Dr. **Richard R. Smith**, Grand Rapids: The general purpose of the paper is to call attention to the seriousness of the disease, because of its complications, and the necessity for more radical ideas in regard to its treatment. In over half of the cases reported life or health were seriously threatened. Complications which may arise, first, from the distortion and pressure caused by increase in size; second, from the inflammatory degenerative or malignant changes which may take place within the tumor itself; third, from the external inflammatory complications, causing adhesions, abscess, etc., outside of the uterus. Hysterectomy is to be preferred to myomectomy in women who have borne children and who are approaching the menopause; or when the growths involve the uterus to such an extent as to make the leaving it a menace to good health or life. Myomectomy should be restricted generally to the simpler cases.

Other Papers Read

"Management of Placenta Prævia," by Dr. E. T. Abrams, Dollar Bay; "The Internal Secretion of the Ovary; Its Application in the Treatment of Disturbances of Artificial and Physiologic Menopause," by Dr. W. H. Morley, Detroit; "Practical Application of Physiotherapy in Gynecology and Obstetrics," by Dr. J. H. Kellogg, Battle Creek; "Cervical Rib," by Dr. Alexander M. Campbell, Grand Rapids; "Experiments in Intestinal Anastomosis," by Dr. Conrad George, Jr., Ann Arbor; "Vincent's Angina," by Dr. M. L. Holm, Lansing; "Prognosis in Cardiac Insufficiencies," by Dr. Hugo A. Freund, Detroit; "Major Amputations," by Dr. Ralph H. Spencer, Grand Rapids.

SIXTEENTH INTERNATIONAL MEDICAL CONGRESS

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(Concluded from page 1130)

Disturbances of the Internal Secretions Clinically Considered

Dr. **Oliver T. Osborne**, New Haven, Conn.: Gigantism is a condition due to hypersecretion of the pituitary, and acromegaly is a condition primarily of hypersecretion, later hypersecretion of the hypophysisis cerebri. The thyroid may not only hypersecrete and hyposecrete, but the component parts of the secretion of the thyroid gland may vary in amount and in chemical constituency and cause various clinical manifestations. These symptoms and signs vary in all degrees and tendency from exophthalmic goiter on the one hand to myxedema and cretinism on the other. Insufficiency of parathyroid secretion causes tetany. A disturbed secretion of the parathyroids may cause paralysis agitans. Hypertension may be due to hypersecretion of the suprarenals. Continuous low blood pressure and neurasthenic conditions may be due to hyposecretion of the suprarenals. Continuous low blood pressure and neurasthenic conditions may be due to hyposcretion of the suprarenals. Surgical shock after abdominal operations may be due to the inhibition of suprarenal excretion. Many of the disturbing symptoms of menstruation are due to ovarian insufficiency or to increased ovarian activity, and it is doubtless probable that many nervous symptoms in women are due to ovarian disturbances. Uterine hemorrhage, profuse menstruation, and other uterine bleedings may often be stopped by the administration of mammary gland substance.

Obesity

Prof. **Carl v. Noorden**, Vienna: In the most common forms the condition is due either to over-feeding or lack of exercise, frequently these two factors are combined. It is easy to understand why excessive corpulence follows these two factors. It is much more difficult to explain those cases in which, although the proper amount of food is taken and sufficient exercise is indulged in, obesity develops. This has been termed constitutional obesity. After discussions which have been prolonged for years and after careful investigations the conclusion has now been arrived at that in such cases the oxidation power of the organism has become weakened. This is a factor which bears a direct relationship with the thyroid gland. Temporary changes in that gland raise or depress the power of oxidation. The various forms of constitutional obesity may be classified as follows: (a) primary thyreogenic obesity, dependent on actual changes in the thyroid such as atrophy, degeneration, functional weakness, and so on; (b) secondary thyreogenic obesity, that is to say, functional anomalies of the thyroid on the action of other organs, such as the pancreas, hypophysis cerebri, suprarenals, thymus, pineal gland, and perhaps other organs also, so-called chemical correlations by means of internal secretions. These questions have not only a theoretical interest but possess important bearings on therapeutics, as anomalies of metabolism known under the term of obesity can only be treated rightly, when in any given instance, the origin of these anomalies has been correctly recognized.

Polycythemia

Dr. H. Senator, Berlin: An increase in the number of red blood cells may be either relative or absolute and may occur under both physiologic and pathologic circumstances. Physiologic polycythemia is observed after the loss of much fluid from the body, after the ingestion of food rich in albumin, in convalescence from anemic disorders in new-born infants, after residence in a strange climate, and perhaps in hybernating animals during the winter months. Pathologic polycythemia is found when the blood becomes thickened during disease, in various forms of cyanosis, in certain intoxications and infections in which hemolysis takes place, and occasionally in diseases in which unknown changes in the blood occur, or in many affections of the nervous system. In all these pathologic circumstances, in addition to the relative polycythemia due to a thickening of the blood, the diminution of the tension of oxygen in the blood must be considered as a causal factor, whereby the hematopoëtic organs are stimulated to greater activity. These conditions must not be confused with polycythemia megalosplenica described by Vaquez, and polycythemia hypertamia described by Geisböch, in both of these a primary affection of the bone-marrow must be taken to be the cause of the polycythemia. Geisböch's disease, of which very few examples have been recorded, may be distinguished from that of Vaquez by the fact that in the former there is a high blood pressure together with hypertrophy of the heart, and enlargement of the spleen cannot be demonstrated. The changes in the blood, which have been more especially studied in Vaquez' diseases, consist in an increase in the viscosity of the blood, and a higher specific gravity. The resistance of the erythrocytes does not appear to differ from the normal, whilst the capacity for the absorption of oxygen lies within the usual limits, or is increased. The respiratory exchange in many cases is found to be high. With regard to treatment a vegetable diet and bleeding gives favorable results. Many cases of primary polycythemia cannot be placed under either of these categories.

Tuberculosis and the Community

Dr. S. Bernheim and Dr. L. Dieupart, Paris, said that, speaking generally, all collective work and every kind of overcrowding favored the development of tuberculosis, especially when they occurred under conditions of faulty hygiene, as was the case in the pursuit of so many occupations. They alluded to the researches which they made among laundry workers, printers, compositors, and sugar-refiners, among whom they found an excessive proportion of tuberculosis. In the same way the staffs of hospitals are often affected. Lunatics, carpenters, floor-layers, policemen, workmen, railwaymen, inmates of penitentiaries, domestic servants, soldiers, and sailors, all pay a heavy penalty to the contagium of tuberculosis. The authors discussed the causes of this contagion which they have estimated by statistical returns for each calling. The remedy which they propose is a relentless attack on unhealthy workshops, dusty trades, insanitary and dark houses, the supervision of the sanitary surroundings of the "pretuberculous" child from his schooldays onward, and the complete abolition of insanitary barracks and workshops. But the struggle against tuberculosis will never be effective unless directed by competent and independent men with a wide mandate, a free hand, and full public powers for the performance of their work. Further, they must be assisted by the serious and persistent cooperation of all classes of society and trade or professional organizations. Tuberculosis is a disease due to misery and ignorance; it plays its worst havoc among the working classes, and it can only be banished from the community by the action of the community itself.

Treatment of Paralytic Deformities in Children

Dr. Robert W. Lovett, Boston: The subject of tendon transference in paralytic deformity has been thoroughly discussed and no routine discussion of the matter is needed. The varieties of paralytic deformity are seven: (1) Deformity due to simple gravity distortion; (2) deformity due to adaptive shortening and lengthening of soft parts; (3) deformity due to the contraction of non-paralyzed limbs; (4) distortion from weight-bearing on partly paralyzed limbs; (5) deformity of the trunk due to effort to secure equilibrium; (6) bony deformity following persistent malposition, and (7) dislocation. The importance of preventing paralytic deformity is important as deformity is in nearly all cases preventable. Supporting apparatus should be used from an early period for the purpose of preventing malpositions. Treatment is, first, mechanical, and secondly, operative, both supplemented by a third therapeutic measure, the development of the muscles by muscle-training, massage, and electricity. The possibilities of mechanical stretching are: (1) The stretching of contracted tissues; (2) the shortening of lengthened tissues, and (3) the influence of growth toward normal by properly fitting apparatus. The replies to a circular of enquiry sent out to the members of the American Orthopedic Association show that tendon transference is on the whole useful, and that periosteal insertion is preferable to insertion of tendon into tendon. The after-treatment is fully as important as the operative. The treatment of paralytic deformity should consist of a combination of the three methods; the operative should not overshadow the others, and the operation of tendon transplantation in properly selected cases is to be regarded as a useful and satisfactory one.

Infantile Malaria

Dr. J. P. Cardamatis, Athens, Greece: Children at the breast are less attacked with malaria than at any other age, infants during the first year of their age enjoying a great comparative immunity. During the second year of life the liability to attack is not much increased, but between the ages of 2 and 7 years, and for some reason or other especially between the ages of 2 and 3, children are particularly subject to the poison of malaria. We are constantly led to believe the placenta to be furnished with antitoxic material which resists the development of the maternal hematozoa, destroying them at the surface of the placenta. Both among nurslings and little children there is great variation in susceptibility to malaria, the same natural immunity being met with as prevails among the indigenous inhabitants of tropical regions, though perhaps on a somewhat lower scale. Contrary to what has been affirmed by Plehn, the form of paludism which confers immunity does not always result in anemia. The natural immunity which has also been observed among children entirely differs from that relative immunity mentioned by Koch, which is due to a great frequency of infection during childhood. It differs also from that immunity which has been observed by Celli in the environs of Rome, and which is attributed to the periodical development and exhaustion of intensity of epidemics. Both the child and the adult in Greece are most frequently attacked with estivoautumnal malaria of the tertian type.

Cyclic Vomiting in Children

Dr. J. Comby, Paris, France: Periodic or cyclic vomiting occurs in attacks lasting two or more days with variable intervals; it is encountered between the ages of 2 and 6 or 8 years. It is seen a little more frequently in boys than in girls. Sometimes several members of the same family are attacked in turn. A neuroarthritic heredity is present in many cases. As pathologic conditions preceding the vomiting there may be sore-throat, adenoids, dyspepsia, a tendency to vomit, enterocolitis, and appendicitis. This form of vomiting has been ascribed to the liver and fatty acid poisoning, acidosis, and acetonemia. If in fatal cases a fatty condition of the liver has been found it is very evident that it has not been primary but secondary to digestive troubles. It is necessary to look for lesions of the appendix. The symptoms consist of uncontrollable vomiting with rapid wasting, which suggests meningitis, peritonitis, internal strangulation, or appendicitis. Constipation, fever, and acetonuria are frequent. The prognosis is generally favorable, but at least ten fatal cases have been published. After having eliminated indigestion the ingestion of some poisonous substance, migraine, intestinal obstruction, and peritonitis the appendix should be examined by an operation. Medical treatment consists of the administration of alkalies, a vegetarian diet, hydrotherapy, and saline injection. Surgical treatment consists in appendicectomy in an interval.

Diagnosis and Treatment of Tumors within the Spinal Canal

Prof. H. Oppenheim, Berlin, read a paper on this subject in which he came to the following conclusions:

1. The differential diagnosis between tumors springing from the meninges and from the spinal column itself can scarcely be said to be established. 2. For the diagnosis between intramedullary and extramedullary new growths important but not absolutely trustworthy symptoms are existent. Of these the chief is the constancy of the upper level of the lesion. Nevertheless, the collection of cerebrospinal fluid above the tumor and the frequently accompanying meningitis serosa circumscripta may cause this level apparently to vary and thereby reduce its diagnostic value. For other reasons also the upper level may seem higher than it really is. Criteria for distinguishing between meningeal tumors and spinal gliosis are not trustworthy. 3. Serous spinal meningitis presents more of the characteristics of spinal tumors than any other extramedullary disease. The aids to differential diagnosis mentioned by Sir Victor Horsley cannot always be depended on. 4. Spinal medullary "pseudotumors" are to be considered with reserve. 5. The segmental diagnosis of spinal tumors may be complicated by the existence of secondary serous or fibrous meningitis. *The symptoms of a tumor may be referable to a level below the site of the tumor.* Therapeutic results are distinctly encouraging.

The Function of the Frontal Lobes

Professor Bianchi, Naples: 1. For experimental work on the frontal lobes the only satisfactory animal is the ape, since in it these structures are well-developed and their architectural structure corresponds to that of the human cerebrum. The psychical activities of each ape must be carefully studied both before and after operation. 2. In front of the motor area (Rolandic) is an electrically excitable zone extending from the mesial margin of the hemisphere over the outer aspect to where that surface becomes continuous with the orbital surface. It is an integral part of the frontal lobe, and corresponds to the prefrontal fissure. From this area the muscles of the neck, eyes and ears can be stimulated. 3. The extirpation of the frontal lobes never produces permanent motor or sensory defects. Visual defects, similarly, are fugitive. 4. The whole intellectual life of the ape is altered after removal of the frontal lobes. Perception, attention, inhibition, and in particular memory and association, are enfeebled. The animal has no longer the power of profiting by experience. Sometimes stereotyped movements and tics are observed. 5. As a result its psychical tone is lowered; it lacks initiative, courage and spirit.

Pathology of Hereditary Diseases of the Nervous System

Dr. B. Sachs, New York: The term "family diseases" is preferable to "hereditary diseases," since very few diseases are conveyed directly from parent to child, whereas the morbid tendency exists in one or both parents which leads to the development of a family disease. There is a marked difference between the cerebral and the spinal groups; the family; diseases of cerebral origin are due to changes in the highest nerve elements, viz., the ganglion cells; the spinal affections are due largely to disease of, or maldevelopment of, one or more systems of white fibers. The one exception to this group is the spinal form of progressive msucular atrophy, and that is only rarely inherited. Family diseases of cerebral origin include hereditary diplegia, hereditary optic nerve atrophy, and amaurotic family idiocy, the infantile form (Tay-Sachs) and the juvenile form (Spielmayer and Vogt). In both types of the latter disease the ganglion cells of the entire nervous system exhibit a marked swelling of the cell body and of the dendrites, *while the axones remain intact. The active cytologic factor* is an abnormal swelling of the hyaloplasm and not a degeneration of the fibrillæ. The occurrence of the disease among Hebrews only suggests that in the members of a race whose nervous system is prone to deterioration children are born with the highest nerve cells so defective that they are entirely unequal to perform the ordinary vital function, and at a very early day undergo a typical disintegration.

Nervous and Psychical Manifestations of Arteriosclerosis

Professor von Tschisch, Dorpat, Russia: Arteriosclerotic neurasthenia is a common disease, especially between the ages of 50 and 55, characterized by anxiety and depression (in association with cardiac symptoms), insomnia, heaviness and numbness of the head, fatigability and incapacity for work. On the mental side it is distinguished by apathy, ill-humor, and irritability. From this stage the transition is a gradual one to arteriosclerotic dementia, in which the memory is greatly impaired, all psychical processes are slower, the patient becomes stupid, his opinions and judgments are mechanical and elementary, the imagination atrophies, and the will power diminishes. *According to Dr. Cramer of Göttingen* the nervous phenomena of arteriosclerosis precede the mental. The former usually consists in a triad of headache, giddiness, and defective memory, associated with, or followed by, transient pareses, slowing of speech, sluggish and unequal pupils, and paresthesia. Prominent among psychical symptoms is depression, sometimes also irritability and a paranoid symptom-complex.

Imbecility in Its Clinical and Medicolegal Aspect

Dr. Sommer, Giessen, Germany: 1. Idiots treated in institutions and the inmates of reformatory schools have many points of resemblance in bodily and mental characteristics. 2. It is therefore desirable that there should be a uniform method of investigating all such cases, and the further requirements for special groups may be easily met by a more extensive application of the special sections of the investigation schedule and by supplementary pages. 3. In studying congenital mental weakness as observed among the inmates of idiot institutions and reformatory schools a great many physiologic and psychophysical methods of examination might be usefully applied, in addition to those given in the investigation schedules, for the purpose of obtaining a better insight into the mental processes. 4. This improved system of classification is valuable both medically, psychologically, and educationally; it, moreover, leads to a better cooperation between the medical and educational authorities in general questions, as well as in respect to the special requirements of individual cases. 5. In the investigation of juvenile criminality it is to be remembered that some of the inmates of reformatory schools are obviously imbecile; when these are left out of consideration it will be found that the ordinary methods of investigation often fail, while, on the other hand, in individuals with apparently normal mental condition, more particularly as regards the intellectual faculties, there are apt to be hysterical and epileptoid manifestations as well as congenital moral defects. 6. Possession of the mental evidence of the existence of power requisite for comprehending the culpability of an act is a bad sign in a juvenile offender. 7. When juvenile offenders are of apparently normal mental capacity, the investigation respectively of their environment and of their inherited characteristics in connection with the study of family circumstances often leads to the recognition of the external or internal sources of criminality. 8. It is probable that analysis of the external and internal influences will more and more tend to show that juvenile crime both in its individual and in its social relations is to be regarded as a disease.

Imbecility in Its Clinical and Medicolegal Aspect

Dr. W. Weygandt, Hamburg, Germany: There are only a few places in which lunacy practice takes cognizance of the ideal classification of anomalous mental conditions, the study of psychologic distinctions with appreciation of bodily peculiarities and special features in the progress of the cases, subsequently confirmed by the results of post-mortem examination. Nevertheless, in the least esteemed branch of psychologic medicine, the investigation of feeble-mindedness in children, science is continually advancing toward this ideal, inasmuch as it obtains increasing success in separating from the mass of complex phenomena a number of groups which exhibit features entitling them to be regarded as distinct clinical entities. The groups which at present are more or less sharply defined are amaurotic idiocy in members of a family, and imbecility associated (1) with abnormal states of the thyroid body, (2) with encephalitis (porencephaly, atrophic sclerosis, etc.) (3) with hydrocephalus, (4) with meningitis, (5) with the mongolian type of features, and (6) with epilepsy; to these must be added tuberculous sclerosis, dementia infantilis, dementia præcox, and the group due to embryonic inhibition of cerebral development. Besides these there are cases which can not yet be clinically differentiated into special classes, and which, more particularly in slight degrees of mental defect, cannot be precisely classified during life. Hysteria, neurasthenia, and melancholia are mental conditions deserving attention. In arriving at practical conclusions such as are required in judicial decisions and in questions connected with the administrative protection of imbeciles the first thing to be considered is the special nature of the defect, because the various groups exhibit varying degrees of unfitness for general society and also of capability for being influenced. The second and even more important point is the degree of the defect. For instance, epilepsy is of itself a disease of the greatest importance in connection with crime; in the worst cases, however, the patients are unfit to be at large. The severe cases are of minor importance from a medical point of view, whereas the mild ones devoid of special characteristics are practically far more important, and psychoneurotic cases are most important of all. The earlier we can recognize an individual as defective in a material degree and the earlier we can draw legitimate inferences as to the person's mental capacity and suitability for institutional treatment, the more positively can it be referred to a definite group in accordance with clinical and still more in accordance with bodily peculiarities. In estimating the degree of feeble-mindedness the intellectual level of the person's environment must be kept in mind, and the same precaution should be observed even in the case of law-breakers who have not incurred any suspicion of mental defect. In answering a question as to a person's capacity for forming an opinion the most practical course is to endeavor to compare the case with a normal child at a definite age-period; of course with due regard to any anomalies external to the intellectual sphere. The proper treatment of a criminal imbecile is a matter for physicians and sociologists.

Diagnosis and Treatment of Mediastinal Tumors

Dr. A. Ceccherelli, Parma, Italy: Mediastinal tumors are possible of diagnosis, but only by the use of all our modern methods, foremost among which we must put radioscopy. No means of investigation must be neglected because it is only on an accurate and positive diagnosis that the decision to perform a difficult and dangerous operation can properly be based, an operation which too often results in a speedy recurrence, the tumor or the infected glands not having been completely cleared away. Tumors of the anterior mediastinum are most promising to attack surgically when they spring from the bones, for the invasion of the mediastinum is only secondary. Surgical intervention is possible in tumors of the posterior mediastinum if the tumor is esophageal, for if it is limited to three centimeters in extent it can be resected and the cut ends of the esophagus brought together, while if it is more extensive the two ends can be brought up to the wall of the thorax or they can both be sutured and the lower end invaginated into the stomach, a gastrotomy being subsequently performed or a plastic operation on the esophagus can be performed. If the posterior mediastinum has to be reached it is better to do so by the transmediastinal route, and it is better to approach the tumor from the right side of the thorax especially if it is low down. A longitudinal incision is to be preferred, and a transverse one may be added to form a flap, resecting a certain number of ribs in order to allow the surgeon a better view of the field of operation.

Relief of the Eye Disease in Egypt

Mr. A. F. MacCallan, M.B., B.C. (Camb.), F.R.C.S. (Eng.), chief inspector of ophthalmic hospitals in Egypt and late senior house surgeon and late chief clinical assistant at the Royal London Ophthalmic Hospital, Moorfields, read an interesting paper on this subject in which he considered mainly the incidence of blindness and trachoma. He divides the clinical variety of trachoma seen in Egypt into four stages based on the comparative prominence of the three features of the disease, granulations, papillary hypertrophy, and connective tissue formation. The universality of trachoma in Egypt is instanced by the high percentage of pupils in the government primary schools affected with the disease, 96 per cent. at one of them. According to the census of 1907, half a million persons were enumerated as blind in one or both eyes, this figure is probably a quarter of a million short of the actual number. Ophthalmic conditions have enormously improved in Egypt during the last twenty years, but no explanation has been offered for this phenomenon. The generosity of an Englishman enabled the Egyptian government to equip and maintain two traveling hospitals which were originally organized six years ago by MacCallan. In addition to these he has the direction of three permanent hospitals in different provinces recently built, or being built, partially by charitable effort and partly by the government. Mr. MacCallan travels from one to another of these five hospitals, of which he is director, and at which he gives clinical instruction to Egyptian surgeons who have obtained their diplomas at the government medical school. The surgical staff of all the hospitals is composed of surgeons thus trained.

Fibroids of the Uterus and Pregnancy

Professor S. Pozzi pointed out that under the influence of pregnancy fibroids of the uterus may undergo an important series of modifications as regards size and position. It is generally taught that fibroids become enlarged during pregnancy, but this is very variable. In some cases these tumors undergo during pregnancy a rapid and remarkable increase in size. The enlargement of a fibroid tumor concurrently with pregnancy is usually due to edematous infiltration, but it may be caused by actual hypertrophy of the tumor elements which produce a more or less marked softening of the whole growth. In other cases aseptic necrosis takes place, but more often cystic degeneration occurs, while rarely suppuration and gangrene of the tumor are seen. During pregnancy there is a tendency for pelvic fibroids to rise up out of the pelvis, but at times this does not occur and in such cases there may be obstruction to delivery. In many cases, fibroids do not in any way interfere with the normal course of the gestation. Occasionally, however, acidents of considerable gravity occur. Among these are incarceration of the retroverted gravid uterus, especially likely to take place at the fourth month and very frequent with an intraligamentous fibroid. When the tumor either by its weight or its position exercises pressure on the walls of the bony pelvis pressure symptoms are liable to supervene. These may take the form of pain due to compression of the nerves, dysuria, retention of urine, albuminuria, pyelonephritis, constipation, or distention from pressure on the intestines. In some cases, attacks of pelvic peritonitis are set up and may require immediate operation. In rare instances torsion of the pedicle, or even of the whole uterus, may be encountered with acute symptoms simulating those seen in cases of torsion of the pedicle of an ovarian cyst. Further effects of the fibroid on the pregnancy are noted in the occasional occurrence of antepartum hemorrhage, abortion, death of the fetus, and its retention *in utero.* Diagnosis of a fibroid complicating pregnancy may be simple or difficult. Three conditions may arise: the medical attendant may be aware that his patient has a fibroid and may find evidence of the occurrence of pregnancy, or he may know nothing of the patient and may find a fibroid with symptoms and physical signs indicating the presence of a pregnancy as well. In other cases, the signs of a pregnancy may be evident, but there may be others less certain pointing to the presence of fibroid. In such a case the diagnosis may present difficulties, and the condition is very likely to be regarded as one of extrauterine gestation. In the majority of patients the pregnancy runs its normal course, even when a fibroid is present and no interference of any kind is required. Any operative interference is only permissible during pregnancy when some grave complication supervenes, such as marked pressure symptoms, vomiting, severe pain, or peritonitis. In any case, even when it is certain that the presence of the fibroid will not permit of a natural confinement it is necessary to await the arrival of full term and then to perform Cesarean section. In cases in which the obstetrician is compelled to intervene in the course of the pregnancy the best treatment is to perform, whenever possible, myomectomy, either vaginal or abdominal. The induction of abortion or of premature labor are both contraindicated, and when myomectomy is not possible then the only alternative in these patients is hysterectomy.

Imbecility in its Clinical and Medicolegal Aspect

DR. FISCHER. Budapest, took for his subject that form of imbecility which has been described under the names of moral insanity or moral imbecility. The most important symptoms, he said, were the following ones: Lack of discretion, absolute incapacity for being influenced, strong propensity traceable even to childhood, lifelong instability and restlessness, aversion to useful employment, unsociableness, exaggerated self-esteem, excessive fancifulness, vanity, complete want of ethical ideas and impulses, absolute unconsciousness of justice and morality, and a great many signs of degeneration. Heredity had something to do with the development of these defects. Observations extending over many years had convinced Dr. Fischer that the ethical imperfections enumerated in this list and the criminal acts arising therefrom were the result of mental incapacity dating from the earliest period of life. In all individuals whom he had had the opportunity of observing from the age of 10 or 12 years to full maturity he found that the ethical shortcomings which rendered them useless as members of society showed no tendency to increase. He then described those forms of the disease which presented similar symptoms, and might therefore be confused with moral imbecility, called attention to the chief points serving to distinguish them, made some remarks on the prognosis, discussed the general question of how such cases should be dealt with, and devoted a few words to the subject of judicial decisions. He agreed with Songard that this form of mental abnormality—imbecility—presented certain features which were always similar and decidedly characteristic; as already mentioned, the features in question existed from the earliest period of life and showed no tendency to increase. On account of possessing these qualities the condition now described might be reckoned as one of the special or definite types of mental disease.

The Control of the Milk Supply in Large Towns

DR. M. BALLO, Budapest, said that the official examination of milk delivered for consumption in large towns is subject to extraordinary, often almost insuperable, difficulties. Since the composition—that is to say, the amount of valuable elements contained in it—is subject to great variation in natural milk, and since, according to most regulations, the composition of the weakest, that is, the milk that is poorest in such elements, is used as the foundation for the examination, it is obvious that a richer milk can be adulterated or diluted to a certain degree so as to appear as weak, yet not adulterated milk, and be thus offered for consumption. In any such case, it is only possible to decide whether the milk is naturally weak or is more or less adulterated with water by means of tests undertaken regularly at the farms, and this is impracticable for large towns which draw their milk from many and various sources, unless by means of control of all dairy farms and milk depots. But since such continual control would entail much expense, the question arises as to whether it would not be simpler and more effectual to prescribe as the minimum standard a richer average milk instead of the weakest natural milk as at present. The latter proceeding would appear the most suitable, for the purveyors of weak milk would certainly lose the trade in large towns if they were not in a position to provide a supply of rich milk, but the sanctioning of a possible watering of milk would be thereby avoided in the surest and simplest way.

Tuberculosis in Armies

DR. C. SFORZA, Rome: Tuberculosis, generally speaking, is diminishing in all armies. Its incidence is always more marked during the first years of soldiers in the ranks. In armies tuberculosis is generally an important disease, proceeding from the revival of old and latent foci existing at the time of admission to the service. In order to reduce the number of cases and of deaths from tuberculosis it is necessary to eliminate all tuberculous and predisposed subjects on entry to the army; to gradually improve the strength and the power of resisting fatigue of the recruits, especially those whose constitution is weak, and those who have a bad heredity; to avoid as far as possible the contraction of the disease by soldiers during their service, and to eliminate promptly all cases of tuberculosis which arise. Patients with the disease, whether curable or incurable, would have to be treated in civil or military sanatoriums at the expense of the state, because armies, while protecting soldiers from tuberculous infection, must not spread the disease among the civilian population. On leaving a sanatorium the patient could receive an annual or temporary indemnity, according to the degree of incapacity at the time.

Dementia Præcox and Military Service

DR. DRASTICH, Vienna: Great importance attaches to dementia præcox in military matters. For it occurs relatively often among the men and also in isolated cases among the younger officers. Since it often develops gradually, even imperceptibly, it is not infrequently overlooked in the early stages. It occasionally leads to various conflicts with discipline and military penal law, and, moreover, to occasional punishment or ill-treatment of those suffering from the disease, and at times it shows symptoms which may easily be mistaken for simulation. For these reasons it is important that not only military surgeons but also military judges should possess as exact a knowledge as possible of this form of psychic derangement, and especially that they should know the symptoms with which the disease is frequently marked at the beginning. Also the knowledge that dementia præcox often takes an intermittent course and has rather long intervals of quiescence is most important and essential in regard to anamnesia, for the assessment of the data relating to the history, and also for the claims of maintenance which come under consideration.

The Treatment of Amebic Dysentery with Special Reference to Appendicostomy

DR. JAMES M. ANDERS and DR. WILLIAM L. RODMAN, Philadelphia: The subject of the treatment of amebic dysentery, particularly in its bearings on surgical procedures, assumes importance in view of the utter helplessness of a certain proportion of cases which have been allowed to drag on until the patients no longer yield to medical treatment, and also because accessible statistics indicate clearly the widespread prevalence of the disease even in subtropical and temperate regions. The fact that an unsterilized water-supply is the principal source of infection deserves especial emphasis. The danger of eating green vegetables and fruits which have either been fertilized by the oriental method, i. e., with human excrement, or cleansed with contaminated water, must be recollected. In the treatment of the attack an important indication to be fulfilled is rest. Magnesium sulphate is recommended since it lessens the pain and tenesmus by removing the hardened fecal masses and inhibiting rather than exciting undue peristalsis. In the advanced stages of amebic dysentery and in cases manifesting highly acute invasion symptoms, purgatives may assume the rôle of aggravating causes. Ipecacuanha early gained popular favor only to fall from its enviable position with the passing of time. It was reintroduced by Sir Patrick Manson, who has expressed the belief that in this drug we have a remedy possessing specific virtues. In general, but not invariably, it exerts a markedly beneficial effect, causing the amebas to disappear rapidly from the dejecta. Much stress is placed on the improved mode of administration by means of "membroids" and salol-coated pills. We think it may be questioned whether chronic irrigation *per se*,—*i. e.*, without surgical intervention, has in its last analysis given more encouraging results than the ipecacuanha treatment properly employed. The simple fact is that not all cases of chronic amebic dysentery yield to either rectal lavage or ipecacuanha even though carried out with great thoroughness. It is desired to place on record a case in which appendicostomy followed by irrigations with a solution of quinin resulted in a remarkable cure. We favor doing the operation in two stages, believing that it is best not to open the appendix until firm adhesions have taken place between the cecum and parietal peritoneum. If the mesoappendix is ligated the blood-supply to the appendix is cut off and gangrene is almost certain to follow. Bring the base of the appendix well up against the abdominal wall, stitching the mesoappendix to the parietal peritoneum. The appendix is snipped off with a pair of scissors after brushing it over with a solution of cocain. As compared with cecostomy we unhesitatingly pronounce in favor of appendicostomy, since it is impossible to prevent leakage after the former operation. It is our belief that the fistula should, as a rule, be maintained indefinitely if the patient contemplate residence or travel in a tropical country. Closure of the fistula is most easily accomplished when desirable.

Medicolegal

Liability for Leaving Sponge in Abdomen

The Court of Appeals of Kentucky says, in Samuels vs. Willis (118 S. W. R. 339), a malpractice case, that the defendant was a surgeon of many years' experience in performing abdominal operations. He was called to operate on the plaintiff for ovaritis. He sent down a trained nurse and followed the next day with a medical student as assistant. Several physicians of the neighborhood came in to witness the operation. After the patient had been put under the influence of an anesthetic, the abdomen was opened by a five or six inch incision, the intestines were pressed aside from the infected region, and in order that they might be held in place, and so as not to interfere with the operator's work, a number of surgical sponges were inserted in the abdominal cavity, forming a kind of cofferdam about the organ to be operated on. These sponges were described as gauze cloths about 14 inches by 6 inches, stitched together. After the operation the sponges were intended to be removed and the cut in the abdomen drawn together by stitches, leaving a small opening in which was inserted strips of the gauze for drainage purposes.

The operation was thought to have been a success, but the patient did not respond by the anticipated recovery. Instead, after a few days, she grew worse. Finally, and in about thirty days after the operation, it was discovered through a part of the original opening made in the abdomen, that some foreign substance was lying near the surface, which on being removed was discovered to be one of the surgical sponges used at the operation. So it was claimed by the plaintiff. It was incrustated in and saturated with foul-smelling pus. After its removal the patient improved in health, but there was left a sinus, which it was claimed had developed into a fecal fistula.

This suit was brought, the plaintiff charging malpractice in that the defendant negligently left or suffered to be left in her person after the operation the surgical sponge, which irritated the intestines, causing them to fester and ulcerate, creating the fistula, which emitted fecal matter and noxious gases to the serious impairment of her health, and causing her sickness and humiliation, mental and physical suffering, for which she sought damages. Simplified, the charge in the original petition was that the defendant had carelessly left foreign substances in the plaintiff's abdomen after the operation, which had perforated her bowels, producing the ill effects specified. But it was doubtless thought by the plaintiff's counsel on reflection that they would be held to show a perforation in order to recover, and that by the foreign substance left there, whether the sponge or other thing; that to perforate required a cut or puncture. Unwilling to rest their case on such a narrow charge, they by amendment sought to and did enlarge it. First they withdrew the charge that by the substances left in the abdomen the bowels had been perforated. In lieu they charged: First, that the defendant in the course of the operation negligently cut or perforated her intestines; and, second, that the sponge which he negligently left in her abdomen ulcerated her intestines "and left an opening therein," festering and gathering pus in her bowels.

When the evidence failed to support the first charge made in the amendment, the plaintiff was still at liberty to sustain the second, if she could, and such was the issue presented by the pleadings. Proof on that issue was admitted from each side. Expert witnesses were brought from great distances by the defendant, whose testimony in the main, if not wholly, was on that point. The jury's attention was directed sharply to that issue of fact. Motions for a peremptory instruction for the defendant and for judgment on the pleadings were properly overruled.

While the defendant was testifying he was required on cross-examination to answer the question whether he carried a policy of insurance against accidents of that kind. Before another witness had been introduced the trial judge receded from his ruling on that point. Moreover, on his re-examination before the matter was withdrawn the defendant was questioned thus: "You have been asked about insurance against suits for malpractice. I will ask you if the terms of your policy cover any damages that may be recovered in a case like this?" His answer was: "Not in the slightest." The court sees no cause to suspect that the jury would have disregarded the witness' answer, or did not obey the subsequent admonition of the judge. The error was probably harmless in the first place, and was cured in the next.

The defendant testified, and a number of other witnesses in his behalf testified, as to the customary and correct method of skilled physicians in performing the operation which was the subject of this suit. Some of the witnesses were asked the hypothetical question whether, if the operation was performed in that manner, it was an ordinarily careful manner of doing it, or was negligent. On objection the witnesses were not allowed to answer that question. This was the correct ruling. That was for the jury alone. Witnesses from a profession may be called to testify concerning the teachings of their science, and the customs of their craft, but whether these things amount to due care is for the court or jury to say in a controverted case.

Many of the physicians testifying on behalf of the defendant said that the best of surgeons left a sponge or some foreign substance in the bodies of their patients in performing similar operations. It was argued from this that, as the highest degree of skill and care are not exempt from the commission of such accidents, a similar lapse by the defendant was at least not other than "ordinary care;" but that did not follow. Because all men are at some time careless does not relieve any man from the legal consequences of his careless act; but even that was for the jury to say whether the defendant exercised the degree of care in the case which ordinarily prudent and skilled surgeons, who practice in similar localities, usually exercise in such matters.

The evidence was conflicting whether the defendant left the sponge in the plaintiff's body, but it was there. Its presence was not otherwise accounted for. He alone placed and removed the sponges that were used in the operation. There was considerable evidence tending to show it was left there by the defendant, and that he did not pursue the course which his own witnesses of his profession said was customary and necessary to verify whether all sponges had been removed.

The trial resulted in a verdict and judgment for $3,500 for the plaintiff. The court thinks that a statement of the case disposed of the claim that the damages were excessive, and it affirms the judgment.

Burden of Proof and Presumptions in Abortion Cases

The Supreme Court of Utah says, in the case of State vs. Wells (100 Pac. R. 681), that the statute of that state is that "every person who provides, supplies or administers to any pregnant woman, or procures any such woman to take any medicine, drug or substance, or uses or employs any instrument or other means whatever, with intent thereby to procure the miscarriage of such woman, unless the same is necessary to preserve her life, is punishable," etc. Under such a statute as this the authorities generally hold, and the court thinks correctly, that it is essential for the state to allege and prove that the production of the miscarriage was not necessary to save the woman's life, and that the burden of proving such fact is on the state.

The authorities are also to the effect that, when it is shown that the woman was healthy and in a normal condition, and that medicine was administered to her, or an operation performed on her to produce a miscarriage, the evidence is sufficient to raise the inference, and to find the fact, that the production of the miscarriage was not necessary to save the woman's life, or that it is sufficient where it is shown that there was nothing in the condition of the woman to indicate any necessity for a produced miscarriage, and that the negative in the information need not be shown by direct or positive evidence, but may be shown by circumstantial evidence. It is not enough however, that circumstances be proved from which an inference may be deduced that the production of the miscarriage was not necessary to preserve the life of the woman, but they must also be inconsistent with every other reasonable conclusion.

If an operation to produce a miscarriage is performed on a woman of ordinary good health and of normal physical conditions, the performance of such an operation is inconsistent with the conclusion that it is necessary to preserve her life. But in such case the good health and physical conditions of the woman may not be presumed, in the absence of testimony tending to show them, for the rule is also well settled that, "where circumstantial evidence is relied on, the circumstances must be proved, and not themselves presumed."

The fact that the woman was unmarried does not tend to show that the operation was not necessary to save her life any more than if she had been married. If any presumptions at all are to be indulged, it is more likely, for various reasons, that it might be more necessary, in order to preserve the life of the woman, to perform such an operation on an unmarried than on a married woman.

Nor does the fact that the defendant had illicit sexual intercourse with the woman necessarily agree with and support the conclusion that the operation was not necessary to preserve her life. If, because of the woman's condition of ill health, or other physical conditions, or bodily ailment, such an operation became necessary to save her life, it was just as necessary to perform the operation whether the woman was pregnant by the defendant or by another.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

September 23

1 Practical Suggestions for the Life-Insurance Examiner. W. E. Porter, New York.
2 *The Responsibility of the General Practitioner for Freedom of Medical Research. W. B. Cannon, Cambridge, Mass.
3 Serodiagnosis of Syphilis. F. P. Gay, Boston.
4 *Laboratory Work by the Country Physician. M. A. Cummings, Winchester, Mass.
5 *Suppurative Pericystitis. A. L. Chute, Boston.

2. **Freedom of Medical Research.**—Cannon reviews the work that has been done by the Council on the Defence of Medical Research of the American Medical Association. This Council is composed of representatives of various medical sciences, who live in well-separated parts of the country. During the past year the Council has been actively investigating the conditions of animal experimentation in laboratories throughout the United States, has taken precautions against the abuse of animal experimentation and against misconceptions of the conditions and purposes of medical research, and has planned a series of papers by experts which will serve to diffuse information regarding laboratory procedures and the results of laboratory study of disease.

In order to learn the conditions of medical research, a circular was sent to all the most prominent schools; reports have been returned for more than eighty. In this circular questions were asked as to the approximate number of different kinds of animals used each year; the methods of securing these animals; the number of dogs and cats killed in the city merely to dispose of the excess; the care of animals in the medical school, including the ventilation, warmth, cleanliness and lighting of their rooms; whether operations likely to involve pain were always performed under anesthesia; whether students were permitted to carry on independent investigation or were cautioned against it; whether experimental work was conducted under rules; and whether any public hostility to animal experimentation existed in the community. These questions have been fully answered. In a large number of laboratories dogs and cats are secured from the city pound or the city police, and in some schools owners contribute animals to be destroyed. In one instance animals are reported as being obtained from officers of the humane society, who had investigated the laboratories and had become convinced that the animals are humanely treated. The accommodations for experimental animals are reported as being well-lighted, well-ventilated, properly warmed and clean; in many instances special animal houses have been built, and in five instances a special attendant is provided to care for the rooms and their occupants.

In answer to the question whether any cutting operations on unanesthetized animals are performed, all the schools that use animals have reported "No." The number of schools in which animals are kept alive after operation are very few. From these schools the testimony is uniform that hospital after-care is always given to avoid discomfort. There is absolutely uniform testimony that students are supervised in any work which they do on animals, and, in fact, are not permitted to perform any experiments, except in a few of the laboratories, on any animals other than frogs.

4. **Laboratory Work by the Country Physician.**—Cummings urges that every practitioner should own or have access to a microscope with oil-immersion lens, and as he uses this from time to time he will find his facility increasing, and with that facility a greater satisfaction in his ability to do better work. Bacteriologic work may also be done, as in examining sore throats. By keeping on hand a few culture tubes, which may be obtained at small expense from some of the medical supply houses, and also sterile swabs, one can take a culture from a suspected throat, and after keeping it in a warm place for from twelve to eighteen hours, there will be a sufficient growth to make a smear on a slide. This may be stained with Loeffler's blue, and on examination through the oil-immersion lens, will show the presence or absence of bacilli. In the matter of examination of the blood, one does not need to be specially expert to determine roughly the hemoglobin by the Tallquist scale, or the contour and relative size of the red corpuscles and presence of white corpuscles in unusual number by means of the Leishman-Wright stain, all of which may be done in ten minutes. The same stain will bring out the plasmodium of malaria if it is present. The determination of the character of tissue changes and of the chemical and bacterial content of fluids, as well as the preparation of sera and vaccines, must be left to the expert.

5. **Suppurative Pericystitis.**—Suppurative pericystitis is a somewhat uncommon condition in which suppuration takes place in the zone of loose tissue above the bladder, and in which either a part or the whole of the space of Retzius becomes a veritable abscess cavity. Chute found that in a large proportion of cases the infection is secondary to some disease of the lower urinary tract. The infection of the prevesical space takes place by direct extension, or through the lymphatics. In a considerable number of cases of suppurative pericystitis the infection is through the blood stream and may come from a focus existing in practically any part of the body. In some instances the disease is an extension from a neighboring intra-abdominal or intrapelvic lesion. The char-

acteristic thing diagnostically is the presence of a mass above the pubes that more or less closely resembles a full bladder, but that is unaffected by passing a catheter. The disease is one that will probably always have a considerable mortality. It is of a secondary character and its mortality will depend largely on the nature of the disease that it is secondary to. The treatment should be free drainage of the pus collection. Chute reports one case.

Lancet-Clinic, Cincinnati

September 18

6 Direct Laryngoscopy. R. H. Johnston, Baltimore.
7 Pellagra. T. C. Minor, Cincinnati.
8 Tumors of the Mediastinum. D. D. Deneen, Cincinnati.

Virginia Medical Semi-Monthly, Richmond

September 10

9 The Physician as a Public Educator. W. L. Peple, Richmond.
10 Local Anesthesia in Major Operative Work. E. M. Hasbrouck, Washington, D. C.
11 Public Schools and Public Health. C. G. Kerley, New York.
12 The Value of Local Medical Societies. V. V. Anderson, Lynchburg.
13 *Re-naming of Malaria—Anophelesis (?) E. W. Robertson, Onancock.

13. **Anophelesis.**—Robertson considers the term malaria a misnomer. The anopheles is the *sine qua non* of the disease called "malaria." It digests the parasite or "develops" it in its body. It becomes its property—a part of its body; it is a harmless germ to it, becoming physiologic like the viper's venom in his own body, but it becomes pathologic to mankind, after being bitten with almost a mathematical precision, when a train of fever and blood havoc supervenes. Therefore, he asks, why not accept the term "anophelesis?"

Annals of Surgery, Philadelphia

September

14 An Analytic and Statistic Review of 1,000 Cases of Head Injury (continued). C. Phelps, New York.
15 *Skin Grafting at the Johns Hopkins Hospital. J. S. Davis, Baltimore.
16 Cyst of the Round Ligament of the Liver. M. S. Henderson, Rochester, Minn.
17 Hour-Glass Stomach. W. A. Downes, New York.
18 *Diagnosis and Treatment of Carcinoma of the Cecum. E. A. Smith, Buffalo, N. Y.
19 *Resection of the Colon for Cancer and Tuberculosis. J. H. Gibbon, Philadelphia.
20 Large Phagedenic Ulcer of the Abdomen. W. H. Luckett, New York.
21 Inguinal Hernia in the Female. W. B. Coley, New York.
22 Surgical Aspects of Chronic Hypertrophic Arthritis. G. P. Muller, Philadelphia.

15. **Skin Grafting.**—Davis' paper is based on a review of 544 cases in which skin-grafting was done in the clinic of Dr. Halsted at the Johns Hopkins Hospital. In this series all types of grafts have been used and skin defects on almost every part of the body have been grafted. It was found that the general health of the patient must be taken into consideration when skin grafting is contemplated and grafts to be successful must only be transplanted to healthy wounds. As a rule, grafts do not take well on luetic individuals. No antiseptics must touch the flaps before or after cutting. A general anesthetic is necessary in the majority of cases in which large grafts are removed. It is best to cover the defect with a single large graft, if possible, as the healing is just as satisfactory as if several small flaps were used and the scar is much smaller. Silver foil immediately over the graft has proved its worth, but it is best to apply it without the paper and not to use alcohol. Temporary moist salt gauze dressings are also satisfactory. Grafting, even if only partially successful, in the majority of cases will shorten the time in the hospital and accelerate final healing. Partial grafting nearly always stimulates epidermal growth from the edges of the wound.

Autodermic grafts take somewhat better than isodermic, but isodermic grafts are much more successful than is generally supposed. When a black superficial graft is applied to a defect on a white person the pigment disappears sooner or later, and *vice versa.* The majority of Thiersch grafts, especially in breast cases, that Davis has examined, were still adherent throughout the greater part of their extent. The shrinkage in the size of a wound after grafting is in some cases quite remarkable. Contraction is prevented to a large extent by grafting, although it sometimes occurs, especially under Thiersch grafts on exposed positions, such as the palm of the hand. In such locations the whole thickness of the skin should be transplanted. Slough of the axillary flap in breast cases has little effect on the healing of the grafts, as in many of the complete "takes" there was slough of the flap, and in many of the partial "takes" there was no slough. Mild wound infection, such as pyocyaneus, seems to have little effect on the ultimate healing of the graft.

18. **Carcinoma of the Cecum.**—Smith reports two cases treated successfully by resection of the cecum. He says that in the future he will choose for the operation in resecting the cecum for removable carcinoma, inversion of both ends of the cut intestine followed by lateral anastomosis by the clamp method between the stumps, or between the stump of the ileum and the most accessible portion of the colon, preferably the ascending or transverse colon.

19. **Resection of Colon.**—Gibbon reports 10 cases which he summarizes as follows: 1. Acute intestinal obstruction; carcinoma of colon; thoracic aneurism and chronic endocarditis. Resection of descending colon and immediate anastomosis. Sudden death eight hours later. 2. Acute intestinal obstruction; adenocarcinoma of colon. Resection and immediate anastomosis. Death twenty-three days after operation. 3. Partial obstruction and carcinoma of transverse colon and sigmoid. Resection of transverse and descending colon; immediate anastomosis. Recovery; patient well to-day. 4. Tuberculous strictures of ileum; tuberculous peritonitis. Resection of ileum and cecum, Sept. 28, 1905. Second operation, Jan. 20, 1906, for fecal fistula. Lateral anastomosis of ileum and transverse colon. Third operation, January, 1907, same condition; lateral anastomosis of ileum and sigmoid. Fourth operation, May 1, 1907; resection of transverse colon with a portion of the ileum. Fifth operation, May 19, 1907; jejunostomy. Patient died May 21, 1907, twenty months after first operation. 5. Obstruction of bowels due to carcinoma of sigmoid. Operation; colostomy, and eight days later resection and anastomosis. Recovery, with death from recurrence one year later. 6. Carcinoma of appendix and cecum. Resection of cecum, lateral anastomosis, Oct. 5, 1907. Death on seventh day after operation. 7. Carcinoma of ascending colon, March 28, 1908. Recovery; well at the present time. 8. Acute intestinal obstruction due to carcinoma of splenic flexure. Colostomy, May 12, 1908, followed by resection May 20, 1908. Death June 6, 1908. 9. Tuberculosis of cecum and peritoneum. Resection of cecum. Recovery; well to-day. 10. Carcinoma of sigmoid. Resection and immediate anastomosis, Jan. 31, 1909. Death, Feb. 14, 1909.

University of Pennsylvania Medical Bulletin, Philadelphia

September

23 The Development of Public Health Work in Philadelphia. A. C. Abbot, Philadelphia.
24 The Faculty of the Early Eighties and its Influence on Medical Men. H. A. Hare, Philadelphia.
25 Radiographic Statistics of the Sesamoid in the Tendon of the Gastrocnemius. H. K. Pancoast, Philadelphia.
26 Examination of Some of the Diabetic Foods of Commerce. D. W. Fetterolf, Philadelphia.

American Journal of Medical Sciences, Philadelphia

September

27 Infection of Urine and Urinary Tract by *Bacillus Coli Communis* in Infancy. J. L. Morse, Boston.
28 *Diagnosis and Treatment of Bilateral Cystic Kidneys, with Special Reference to the Determination of the Renal Function. M. Krotoszyner, San Francisco.
29 *Value of the Wassermann Reaction in Cardiac and Vascular Disease. J. Collins and B. Sachs, New York.
30 Various Types of Plague and their Clinical Manifestations. N. H. Choksy, Bombay, India.
31 *Leprosy in the Philippine Islands and its Treatment. V. G. Heiser, Manila, P. I.
32 Luetic Bursopathy of Verneuil. J. W. Churchman, Baltimore.
33 Chorea a Symptom—Not a Disease. G. M. Swift, New York.
34 Practical Value of the Association Test. P. Bailey, New York.
35 *Importance of Blood Cultures in the Study of Infections of Otitic Origin. E. Libman and H. L. Celler, New York.
36 *Tuberculin-Treated Guinea-Pigs in Recognition of Tuberculosis. G. Ebright, San Francisco.

28. **Bilateral Cystic Kidneys.**—A careful study of three personal cases and of others recorded in the literature convinces

Krotoszyner that polycystic degeneration of the kidneys is in almost all instances a bilateral affection. In cases in which, for the time being, one kidney appears to be anatomically and functionally healthy, an involvement of this organ may be expected to develop later. Determination of the kidney function is indispensable prior to decision on any operative procedure. Nephrectomy in cystic kidney is always contraindicated. Excruciating pain, general sepsis caused by suppuration of cysts, profuse hematuria, and distressing symptoms due to the presence of enormously large cysts are, under favorable conditions (good renal function), indications for operative interference. Nephrotomy with puncture of cysts, decapsulation and nephrofixation are the operative procedures which in selected cases may give satisfactory (temporary) results.

29. **Value of Wassermann Reaction.**—From a study of 36 cases of cardiac and vascular disease, the importance of syphilis as a causative factor is established in a very large percentage of all the cases. The highest percentage was obtained in cases of aneurism, in which a positive Wassermann reaction was obtained in all of 5 cases. In the cases of aortic disease, 10 out of 13 cases gave a strongly positive reaction; 2 gave a weak positive reaction. In marked contrast to this are the cases of diffuse chronic endocarditis affecting the mitral valve in which only 1 of the 7 cases gave a positive reaction. Collins and Sachs believe that the inference is justified that rheumatic and other infectious agencies are a much more potent etiologic factor in diffuse chronic endocarditis than is syphilis. Taking all these facts into consideration, there can be little doubt that when we have pronounced symptoms of aneurism or of aortic disease, it is well to suspect syphilis, even though the manifestations may be latent. Even in those cases in which articular rheumatism and other infectious agents may have played some sort of rôle, and in which metallic poison or abuse of alcohol or of nicotin be admitted, if a Wassermann reaction gives positive results, antisyphilitic treatment should be instituted, whatever else may have been discovered regarding the antecedent history of the patient. No doubt articular rheumatism and syphilis occur often enough in one and the same individual, and if the course of antisyphilitic treatment has been decided on, we may at least ask that it be properly administered. Collins and Sachs favor the routine treatment by hypodermic injection of mercury. Their best results have been obtained by the use of deep injections of corrosive sublimate. In some cases marked improvement in the cardiac and vascular symptoms followed on such treatment, but even if the vascular system should not improve the mercurial treatment, a positive Wassermann reaction would justify vigorous specific treatment for the purpose of preventing serious syphilitic involvement of other organs and systems of the body.

31. **Leprosy.**—Heiser has employed the x-ray successfully in a few cases, but does not regard it as being suitable as a routine treatment. The cases in which this form of treatment is apparently of value are the early stages of the tuberculous type in young and otherwise healthy subjects. The breaking down by the x-rays of one large, leprous granuloma of an individual usually results in marked coincident improvement in the granulomas situated in parts of the body far removed, and to which the x-rays have not been applied. The experience in the Philippines during the past three years demonstrates that segregation has decreased the incidence of leprosy by over 50 per cent.

35. Abstracted in The Journal, June 19, 1909, p. 2017.

36. **Tuberculin Reaction in Guinea-Pigs.**—The experiments on which Ebright's paper is based were undertaken in order to determine to what extent the tuberculin reaction in guinea-pigs might be of value in the diagnosis of human tuberculosis. The problem which presented itself was to reduce the length of time required for the determination of tuberculosis in guinea-pigs that had been inoculated with material containing tubercle bacilli. The method employed in carrying out this test has simplicity to commend it and the fact that positive results are conclusive. The technic consists of making an emulsion of the suspected material in normal salt solution, if it is not already fluid enough to be injected through a coarse syringe or sharp-pointed, improvised pipette. Three guinea-pigs are inoculated by injecting a considerable quantity under the skin of the abdomen. At the end of six days one pig is given 0.25 c.c. of tuberculin hypodermically on the other side of the abdomen, and is chloroformed at the end of twenty-four hours and autopsied. The fluids at the site of the original inoculation are smeared on a slide and examined in the ordinary way for tubercle bacilli. If the first pig results negatively, another is examined in the same way by giving tuberculin at the end of two weeks, and making the autopsy at the end of twenty-four hours. If this is also negative, the third pig is given tuberculin at the end of from four to six weeks, and the result of its examination is a check on the first two. The test offers a means in a considerable proportion of cases, of making a diagnosis at the end of a week instead of waiting until the lapse of from four to eight weeks. It also presents a method of distinguishing tubercle bacilli from other acid-fast bacilli, especially when, as often happens, they are present in large numbers.

Journal Missouri State Medical Association, St. Louis

September

37 Dr. Adam Hammer, Surgeon and Apostle of Higher Medical Education. J. M. Ball, St. Louis.
38 Tuberculosis as the General Practitioner Sees It. O. H. Brown, Mt. Vernon.
39 Acute Pulmonary Edema with Report of Cases. J. Q. Chambers, Kansas City.
40 The Art of Refraction. J. Green, St. Louis.

Journal of Biological Chemistry, Baltimore

September

41 *The Decomposition of β-Oxybutyric Acid and Aceto-Acetic Acid by Enzymes of the Liver. A. J. Wakeman and H. D. Dakin, New York.
42 The Leucin Fraction of Proteins. P. A. Levene and D. D. Van Slyke, New York.
43 The Leucin Fraction in Casein and Edestin. P. A. Levene and D. D. Van Slyke, New York.
44 Nature of the Acid-Soluble Phosphorous Compounds of some Important Feeding Materials. E. B. Hart, and W. E. Tottingham, Madison, Wis.
45 *Volumetric Method for the Estimation of Casein in Cow's Milk. E. B. Hart, Madison, Wis.
46 Preformed Hypoxanthin. V. N. Leonard and W. Jones, Baltimore.
47 Intracellular Enzymes of Lower Fungi, Especially Those of Penicillium Camemberti. A. W. Dox, New Haven, Conn.

41. **Decomposition of β-Oxybutyric Acid.**—The experiments of Wakeman and Dakin show that β-oxybutyric acid is oxidized by means of material derived from the liver, but not containing the liver cells. The oxidizing power of such material is destroyed by heating; hence it is concluded that the oxidation is due to a ferment contained in the liver tissue. The results also show clearly that an enzyme capable of decomposing aceto-acetic acid is also present in normal liver tissue, and that this action is not increased by the addition of blood.

45. **Estimation of Casein.**—Hart gives the following method of volumetric determination of casein in cows' milk: 10.5 c.c. of milk are placed in a 200 c.c. Erlenmeyer flask, 75 c.c. of distilled water, at room temperature, are added and 1 to 1.5 c.c. of a 10 per cent. solution of acetic acid. The flask is given a vigorous rotary motion. Usually 1.5 c.c. of acetic acid gives a clear and fast filtering separation, but, occasionally, with milks low in casein, a better separation is effected if a little less acetic acid is used. The separated precipitate is now filtered through a 9 to 11 cm. filter. As the casein accumulates on the filter, there is a marked retardation of the filtering process. This can again be made rapid by conducting a fine stream of cold water against the upper point of contact of filter paper and casein. This loosens the casein mass and accumulates it at the apex of the filter. This is all essential to the proper working of the process. It is absolutely necessary that all loosely combined or absorbed acetic acid be removed from the precipitate by a thorough washing and also that cold water be used in the process, in order to maintain the casein in a loose, easily soluble mass. The readiness with which the casein dissolves in the dilute alkali is largely determined by the temperature to which it has been subjected in the manipulations. A temperature not exceeding 20 C., and one that in his experience prevented the formation of large compact masses, is recommended. The particles of casein adhering to the glass of the precipitating flask need not be removed, as the bulk of the precipitate is again to be returned to the same flask. They should, however, be thoroughly

washed. The washings should continue until at least 250 to 300 c.c. of filtrate have accumulated. This insures removal of all acid. If the process has been properly conducted and the right amount of acid used in the precipitation, the filtrate will be perfectly clear.

The precipitate, together with the filter paper, is now returned to the flask in which the precipitation was made, from 75 to 80 c.c. of neutral carbon dioxid free water are added, and then a few drops of phenolphthalein and 10 c.c. of $\frac{N}{10}$ potassium hydroxid. The flask is stoppered with a rubber stopper, and vigorously shaken, either by hand or in a machine, until solution. Complete solution is easily indicated even in the presence of the filter paper by the disappearance of the white casein particles, that otherwise would settle to the bottom. After solution, the stopper is rinsed off with neutral carbon dioxid free water and immediately titrated with $\frac{N}{10}$ acid to the disappearance of the red color. It is imperative that a blank should be run parallel with the entire determination. In the author's experience it was always found that even when all ordinary precautions were taken to secure neutrality, a blank of 0.2 to 0.3 c.c. acidity was obtained. The correction for the blank—and in his laboratory it was invariably in the same direction—is made by its addition to the number of cubic centimeters of acid used in the titration. The difference between this corrected acid reading and the 10 c.c. of alkali used gives directly the percentage of casein in the milk. For example: Suppose it took 6.7 c.c. of $\frac{N}{10}$ sulphuric acid in the titration, and the blank was 0.2 c.c., then the per cent. of casein becomes 10 — 6.9, or 3.1 per cent. This method is rapid and, if properly conducted, is said to give accurate results in less than two hours.

Chicago Medical Recorder

September

48 Studies in Contemporary Workmen's Compensation (Second Paper). W. H. Allport, Chicago.
49 [illegible] nt Perineal Laceration. O. Betz, [illegible]
50 [illegible] J. T. U. Renaud, Chicago.

Journal Medical Society of New Jersey, Orange

September

51 *Intramuscular Mercurial Injections in Syphilis. H. A. Pulsford, South Orange.
52 Dyspepsia—A Misnomer. W. B. Stewart, Atlantic City.
53 *The Supernutritive Properties of Milk. A. McAlister, Camden.

51. Abstracted in THE JOURNAL, Aug. 7, 1909, p. 477.

53. Abstracted in THE JOURNAL, Aug. 28, 1909, p. 739.

Military Surgeon, Washington, D. C.

September

54 Civil Sanitary Function of the Army Medical Department in Territory under Military Control. E. L. Munson, Washington.
55 Favus: As Observed in the Inspection of Immigrants. J. B. Stoner, U. S. P. H. and M.-H. Service.
56 *Leprosy in Guam. G. L. Angeny, U. S. Navy.
57 Report of Twelfth International Congress on Alcoholism, held in London, July 18-24, 1909. F. L. Pleadwell, U. S. Navy.

56. **Leprosy in Guam.**—In 11 cases of leprosy, 2 of the anesthetic variety, 4 of the tuberculous variety, and 5 of the mixed variety, hydrargyrum succinimidum, gr. 1/5, was injected into the buttocks every second day for the first thirty days, then gr. 2/5 every fourth day, to date. In a few instances mild symptoms of mercuralism manifested themselves and necessitated the discontinuance of the treatment for several injections. In no case, however, did this occur until well along in the second month of the treatment. The results of nearly four months' treatment by this method are not encouraging, although in a majority of the cases some improvement of the subjective symptoms has taken place. Ten of the eleven patients state that they feel better since the treatment was begun. When asked to define the improvement they reply that they "feel better over the entire body." In 9 cases neuralgic pain was a prominent symptom. In 2 cases, 1 of the nerve and the other of the mixed type, the patients experienced entire relief from pain shortly after the first few injections; in 5 others, the attacks of pain recur less frequently and with less severity, and in the remaining 2 this symptom has not been modified. It is impossible, however, to detect any improvement in the objective symptoms. In one patient who has persistently held that he "feels better," there has been a decided loss of weight, an incipient leprous keratitis has advanced so as to destroy, entirely, the vision of the affected eye, several large ulcers of the extremities have manifested no tendency to heal, and the bacilli are far more numerous than when the treatment was instituted. In another case of mixed leprosy, a large bulla which developed on the foot during the third month of the treatment has left, as a sequel, an ulcer several square inches in area, which will eventually destroy one or more toes. A third patient has shown a decided increase in the facial lepromata, and an increase in the number of bacilli. In this and the remaining cases, aside from the improvement in the subjective symptoms, the disease has apparently pursued its normal course, unaffected by the treatment. While in some cases the existing skin lesions have healed, in most cases new lesions have appeared, so that now, after nearly four months of treatment, the individual cases show about the same number of open lesions as when treatment was begun. One patient declares that the treatment has made him worse, and he certainly has shown no improvement. Although the method has not been followed by any decided benefit, the results are not regarded as conclusive by Angeny, and it is his intention to continue the injections in the patients now under treatment and to add to the list a number of other cases.

Progressive Medicine, Philadelphia

September

58 Diseases of the Thorax and Its Viscera, including the Heart, Lungs, and Blood-Vessels. W. Ewart, London, Eng.
59 Dermatology and Syphilis. W. S. Gottheil, New York.
60 Obstetrics E. P. Davis, Philadelphia.
61 Diseases of the Nervous System. W. G. Spiller, Philadelphia.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

September

62 Treatment of Certain Vesical Affections by Hydraulic Distention. E. Garceau, Boston.
63 *Suprapubic Operation on Pelvic Floor for Prolapse of the Uterus. W. M. Polk, New York.
64 Struma Ovarii. R. T. Frank, New York.
65 *Decidual Expulsion Occurring at Each Menstrual Period. O. Frankl, Vienna, and J. J. Scroggs, Beaver, Pa.
66 *Removal of Unusually Large Ovarian Cyst. S. H. Knight, Detroit, Mich.
67 Abdominal Myomectomy for Large Uterine Fibroids. H. P. Kuhn and W. J. Frick, Kansas City, Mo.
68 The Air of the Operating Room as a Possible Factor in the Infection of Wounds. H. Robb, Cleveland, Ohio.
69 Consideration of Eclampsia with Report of a Case Accompanied by Hemiplegia. C. W. Barrett, and J. H. Harger, Chicago.
70 Uncontrolla[illegible] the Non-Puerperal Uterus. G. H. Ma[illegible].
71 Dermatitis [illegible] H. G. Myrick, Boston.

63. **Suprapubic Operation on Pelvic Floor.**—In a case of complete relaxation, with elongation of all the interpelvic supports of the uterus, vagina and bladder, Polk performed an original operation, which, he says, is designed to aid in the correction of all degrees of prolapsus uteri, but particularly its ultra forms. The patient is placed in bed and treated for a week or ten days. Reduce the prolapse, and permit the affected viscera and surrounding structures to regain as much of the normal status as possible. After opening the abdomen, the Trendelenburg position being secured, and the pelvis (the true pelvis) cleared of all intestine, except the lower sigmoid and rectum, the uterus is firmly caught with a double tenaculum at its anterior vaginal juncture. Pulling it up and making the vagina taut, an anteroposterior incision is made reaching from the tenaculum to the bladder (which meanwhile is held against the pubis), and extending through tissue to the recognizable vaginal wall. Through this opening, which is stretched laterally, the bladder is separated from the face of the vagina as far as the trigone or even somewhat beneath it. The ureters are pushed aside, and where they turn toward the trigone are displaced upward and forward with the bladder. The next step is to unite by suture with continuous kangaroo tendon the anterolateral lines of the vagina (one on each side) from below upward, beginning as far down as possible

and ending just below the upper end of the original incision. A second line of continuous kangaroo suture is then placed, so as to draw to the median line as much fascia and covering peritoneum as can be brought in from the sides of the bladder, the vagina and the uterus. The structures in this region which must be left outside the sutures are the ureters and the uterine arteries—the arteries are in danger at the upper end of this field, the ureters at the lower. The most important loops of this suture are those employed at the lower portions of the incision—the last two need not enter the vaginal tissue, but, going down to it, pass over, and then out on the opposite side as before. Their effect will be to accentuate the line of the bladder base, and to shorten the suspensory ligament of the bladder, as well as the lateral fascial connections of the vagina and the basic lines of the broad ligaments. The uterosacral ligaments are caught up at about the junction of the inner and middle thirds, drawn in from this point and stitched with the same suture material either to the side, below or to the outside of their uterine attachment, as is most easily done. It is essential to take in as much of the slack as is needed to give them their original supporting function.

If the uterus is to be retained, the operation, as described, will be carried out with the addition, if deemed best, of shortening the round ligaments, but this is not essential. If it is a senile uterus, Polk suggests that it be thrown forward and the fundus held in the sulcus behind the bladder by a retaining suture through the round ligament at each cornua. If the uterus is removed, the operation is then executed as described as far as the completion of the suturing in front of the uterus, then this organ is dissected or cut from its lateral attachments to about the level of the internal os, stopping short of the attachment of the uterosacral ligaments. The cut surfaces of the stump are stitched together in continuation of the line of original incision; the loose ends of the severed broad and round ligaments caught up and included in this line of suturing. And finally, the uterosacral ligaments are caught up at the junction with the stump; the right is drawn over and stitched to the stump to the left, and the left is drawn to overlap the right and stitched in corresponding position to that given the left ligament. After closing the abdominal wound, further procedure can be determined by the patient's condition.

65. **Decidual Expulsion at Menstrual Period.**—A woman, 27 years of age, had given birth to a child when 24. Labor was normal. Since then she has had at her menstrual periods severe pains, simulating true labor pains, and is relieved only after the expulsion of a cast-like membrane. Before this membrane is expelled a bloody discharge begins. Her family physician attended her during three periods and each time found a complete membranous cast of the uterine cavity. The surface of this cast is finely granular. On opening the cast one sees both tubal cornua, and that the internal surface shows large and small granular elevations; the thickness of this membrane is more than 1 cm. The patient was under the authors' observation during two menstrual periods, and each time she expelled a membranous cast and suffered severe, labor-like pains. Histologic examination shows a marked decidual formation. Frankl and Scroggs believe that this is not a case of dysmenorrhea membranacea, but a true decidua; that it is a product of pregnancy, although no part of the ovum was found. Apparently, the ovum died each month in the first stages of its development. The woman admitted that she cohabited with her husband just after the menstrual period, and therefore must have been impregnated immediately. The ovum died during the first days, but the decidua remained in the uterine cavity until the time of the next menstruation. At the time of the physiologic menstrual wave the separation of the decidua from the uterine wall began in which the thrombosis of the blood sinuses perhaps helped, and it was then expelled by the uterine contractions.

66. **Unusually Large Ovarian Cyst.**—Knight's case was one of multilocular adenoma of the ovary, and some of the daughter cysts were filled with a thin pea-soup-like fluid. The fluid part of the tumor collected amounted to 96 pints. The solid part of the tumor weighed 15 pounds. The whole together weighed 111 pounds. The patient herself weighed 87 pounds when she left the hospital.

Journal of Advanced Therapeutics, New York

September

72 High-Frequency Currents. F. De Kraft, New York.
73 The Correction of Flat-Foot. H. McIntosh, Boston.
74 Alto-Frequent Cytolysis of Cancer (continued). J. A. Riviere, Paris.

Cleveland Medical Journal

September

75 *Asthenia Universalis Congenita. B. Stiller, Budapest, Hungary.
76 *Intestinal Hemorrhage in Typhoid. J. H. Lowman, Cleveland.
77 Estimation of the Amount of Paralysis in Infantile Paralysis from the Point of View of Operative Treatment (Tendon and Muscle Transplantation, etc.). H. O. Feiss, Cleveland.
78 Delirium. J. Phillips, Cleveland.
79 Extent and Variety of Refraction Cases in Cleveland. L. K. Baker, Cleveland.
80 Fatal Phlebitis of the Cerebral Sinuses and Veins in a Child Fourteen Months Old. J. J. Thomas, Cleveland.

75. **Asthenia Universalis Congenita.**—In the course of his studies Stiller discovered a constitutional disease, hitherto unknown, which he has called asthenia universalis congenita. The predisposition shows itself even in the child in the atonic habitus—thin bone structure, long flat and sunken thorax, sharply sloping ribs and wide intercostal spaces. The angulus epigastricus, upper and lower chest apertures, as well as the pelvis, are narrow. The cranium outweighs the face, owing to the delicate and pointed lower jaw, the zygomatic bones and the nose being small in size also. This congenital, mostly inherited, asthenic predisposition tends to lead to a chain of disorders, which, as a rule, show themselves first after pubescence, and together with the congenital habitus form the asthenic disease. These disorders are manifold; but among them appear most often four large groups, i. e., enteroptosis, nervous dyspepsia, neurasthenia and dystrophia.

76. **Intestinal Hemorrhage in Typhoid.**—In 1,218 consecutive cases of typhoid running over eleven years in Lakeside Hospital, Cleveland, there have been 74 cases of intestinal hemorrhage, or 6.07 per cent.; 56 of them were men and 18 women. Of the hemorrhage cases in this series, 21 individuals, or 28.37 per cent., died; this is 1.72 per cent. of the entire number of cases. Of the 21 cases, 11, or 52.38 per cent., died of perforation, representing 14.8 per cent. of the hemorrhagic cases. Nine, or 12.16 per cent., died of toxemia, and one from the immediate direct effects of hemorrhage. The symptomatology of hemorrhage is often indefinite. In this series, 36, or 48.64 per cent., gave no prodromata. The symptoms recorded are: Four stools in 1 case; diarrhea in 3 cases; pain in 9 cases; sudden distention in 3 cases; fall of temperature in 13 cases; fall in blood pressure in 1 case; and delirium in 6 cases.

The chief therapeutic conception in intestinal hemorrhage is the securing and maintenance of an empty and collapsed bowel, whereby the vessels will be compressed and the conditions favoring arrest of hemorrhage will be produced. As patients rarely die as the result of the hemorrhage, and then almost always after several bleedings, one can reasonably expect that the patient will quickly recover from the results of the acute anemia, and the entire energy of the physician can be devoted, for a time at least, to stopping the bleeding. The abstinence can be continued six days after the hemorrhage ceases. A Leiter coil or cold applications to the abdomen, stimulants hypodermically, opium in small quantities for restlessness and active peristalsis and water are incidentally used as required; all bathing, except for comfort, is stopped. Lactate or chlorid of calcium is employed almost as a routine measure, although its use is not scientifically demanded unless the coagulation time is slow, which is not always the case. The older remedies, turpentine and ergot, are useless. Opium abolishes peristalsis and is an effective aid. Absolute quiet is essential.

Journal of Nervous and Mental Disease, Lancaster, Pa.

September

81 *Critical Study of the Sensory Functions of the Motor Zone (Pre-Rolandic Area); More Especially Stereognosis. H. H. Hoppe, Cincinnati.
82 Aneurism of the Left Anterior Cerebral Artery with Rupture Simulating Brain Tumor. J. A. Booth, New York.
83 Case of Syringomyelia. J. A. Booth, New York.
84 Two Cases of Encephalitis. S. D. Ingham, Philadelphia.

81. Abstracted in The Journal, July 17, 1909, p. 227.

Buffalo Medical Journal

September

85 The Buffalo Academy of Medicine in 1908-09. E. A. Bowerman, Buffalo.
86 County Sanitary Associations and their Uses. O. J. Hallenback, Canandaigua, N. Y.
87 *Relation of Local Skin Lesions to Flat-Foot. W. H. Billings, Buffalo.
88 Nervous Sequelæ of Infectious Diseases. J. W. Putnam, Buffalo.
89 Treatment of Placenta Prævia. H. Schwartz, St. Louis.
90 Modern Surgery of the Stomach. J. B. Deaver, Philadelphia.

87. **Relation of Skin Lesions to Flat-Foot.**—Billings claims that in about 80 per cent. of flat-foot cases, the skin covering the ankle and foot will present one or more conditions which seem to be closely related and always benefited, often cured, by correction of the deformity. The most common skin lesion associated with flat-foot is the callus. Excessive sweating of the feet is a troublesome skin condition frequently seen in flat-foot deformity. This condition is relieved as the foot gains in strength in its corrected position. Varicose ulcer located posterior to and above the internal maleolus is occasionally a complication of flat-foot. A soft corn between the fourth and fifth toes is almost always associated with transverse arch relaxation. Eczema between the toes, although not common, is always associated with flattened transverse arch. A troublesome fissure located between the fourth and fifth toes is often associated with a relaxed transverse arch and relieved by arch correction.

New Orleans Medical and Surgical Journal

September

91 Chronic Interstitial Nephritis. F. M. Thornhill, Arcadia, La.
92 Cretinism. J. D. Bloom, New Orleans.
93 Hawaii as a Location for Sanatorium for the Tuberculous. E. S. Goodhue, Kona, Hawaii.
94 Case of Infantile Scurvy Associated with Rickets. P. J. Kahle, New Orleans.
95 Pathologic Sleep: A Manifestation in Certain Nervous Diseases. E. M. Hummel, New Orleans.
96 Pellagra: Report of Eleven Cases from Mississippi. C. C. Bass, New Orleans.
97 Case of Tubal Abortion. A. Jacoby, New Orleans.
98 Tumor of Brain. J. B. Elliott, New Orleans.
99 When is Gonorrhea Cured? A. Nelken, New Orleans.
100 Acetonuria with Relation of Cases. L. G. LeBeuf, New Orleans.
101 Indications for Digitalis in Pneumonia. A. A. Herold, Shreveport, La.

The Laryngoscope, St. Louis

September

102 *Lipoma of the Larynx. M. A. Goldstein, St. Louis.
103 Action of the Respiratory Muscles in the Production of Voice. G. H. M [illegible]
104 Suction or [illegible] ppurative Otitis Media.
105 Significanc [illegible] G. E. Shambaugh, Chicago.
106 *Pemphigus of the Throat. L. M. Hurd, New York.
107 [illegible] on, Pittsburg.
108 [illegible] Beck, Chicago.
109 [illegible] Specula. S. G. Higgins, Milwaukee.

102. **Lipoma of Larynx.**—Goldstein reviews, briefly, 12 cases recorded in the literature, and cites 1 personal case in which two lipomas of large size were removed successfully under local anesthesia. A large rounded, pale, yellowish-pink mass completely filled the glottis, extending from the left lateral wall of the ventricular fossa, pushing the ventricular band upward and overlying both vocal cords. Owing to unusual size of this mass and its extreme convex surface, the left ventricular band was stretched and arched abnormally upward, so that it appeared almost in a line with the left arytenoid cartilage. The patient had complained for about a period of fifteen years of almost constant discomfort in speech and respiration, two symptoms which have become more aggravated from year to year, culminating in marked dyspnea, with change in position of the body, frequent paroxysms of coughing and marked emaciation, restless nights, nervous depression, inability to eat or to digest properly.

106. **Pemphigus of the Throat.**—In Hurd's case the pemphigus was limited entirely to the mucous membrane of the throat, an exceedingly rare condition.

Denver Medical Times and Utah Medical Journal

September

110 Typhoid Fever. L. P. Barbour, Rocky Ford, Colo.
111 Cesarean Section: With Report of a Case. F. Finney, La Junta, Colo.
112 Diseases of the Cow that May Affect the Wholesomeness of Milk. M. White, Denver.
113 Rabies—Plague. R. Anderson, Salt Lake City.

St. Paul Medical Journal

September

114 Recognition of an Uncompensated Heart. T. W. Stumm, St. Paul.
115 Some Atypical Gall-Stone Diseases. J. W. Andrews, Mankato, Minn.
116 Climate of the Northwestern States of America. H. L. Taylor, St. Paul.
117 *Epidemic Poliomyelitis. H. Sneve and W. Ramsey, St. Paul.

117. **Epidemic Poliomyelitis.**—Sneve and Ramsey have translated and abstracted the clinical description of the disease by Dr. Wickman of Stockholm, and the pathologic studies of Harbitz and Scheel of Christiania, and the bacteriology of the affection by Dr. Geirsvold of Christiania, Norway's state epidemiologist. They urge on every physician to report every suspicious case, and also to furnish spinal fluid to the city or state laboratory, and whenever possible to secure a postmortem.

American Journal of Physiology, Boston

September

118 *The Paths of Excretion for Inorganic Compounds—IV. The Excretion of Magnesium. L. B. Mendel and S. R. Benedict, New Haven, Conn.
119 *Idem. V.—The Excretion of Calcium. L. B. Mendel and S. R. Benedict, New Haven, Conn.
120 *The Influence of the Isomers of Salicylic Acid on Metabolism. E. W. Rockwood, Iowa City, Iowa.

118. **Excretion of Magnesium.**—Mendel and Benedict find that when soluble magnesium compounds are introduced into animals by another route than the gastrointestinal tract, the greater portion of the excess injected leaves the body by way of the kidney within less than forty-eight hours. The intestinal path is of minor, if any, significance for magnesium introduced under these conditions. A considerable quantity of magnesium may be retained in the body for periods exceeding two weeks. The increased excretion of magnesium by the kidneys is accompanied by a marked rise in the urinary output of calcium. The calcium output in the feces is decreased, if any thing, at the same time. The parental introduction of magnesium sulphate in dogs and rabbits is never followed by purgation. The evidence for magnesium chlorid is not conclusive. Diuresis followed the use of both salts.

119. **Excretion of Calcium.**—The same authors find that excess of calcium chlorid may be eliminated by the kidneys and a simultaneous increased excretion through the bowel does not necessarily occur. A considerable quantity of the excess of calcium introduced may be retained for some time in the body. The increased excretion of calcium is accompanied by a rise in the urinary output of magnesium. The injections of calcium chlorid (with sodium chlorid solution) were followed by diuresis. It is suggested that the injection of either calcium or magnesium brings about the presence of an increased amount of the other metal in the blood as an antitoxic compensatory response of the organism whereby the toxic action of the injected metal is, to some extent, overcome.

120. **Influence of the Isomers of Salicylic Acid on Metabolism.**—Rockwood has experimented with metaoxybenzoic and paraoxybenzoic acids, which are isomers of salicylic acid (orthooxybenzoic acid) to determine their effect on metabolism. The experiments were made on a physician and three medical students. As is well known, orthooxybenzoic acid (salicylic acid) increases the elimination of uric acid in the urine. Rockwood concludes that this is due to an inhibition of uricolytic action rather than a stimulation of the nuclein-cleaving ferment. The meta-acids and para-acids do not affect the elimination of uric acid or of the other excretory products so far as they were determined.

American Journal of Urology, New York

September

121 The Pathology and Diagnosis of Dilatation of the Renal Pelvis. L. W. Bremerman, St. Louis.
122 The Surgical Anatomy of Inguinal Ectopia of the Testicle. L. de Raymond, Montpellier, France.
123 Circumcision with Cocain Anesthesia. S. Stevens, Battle Creek, Mich.
124 The Gonococcus, Its Relation to the Practice of Obstetrics and Gynecology. W. F. Thompson, Beaumont, Tex.

Journal of Cutaneous Diseases, New York

September

125 *Treatment of Certain Chronic Inflammatory Skin Diseases. L. A. Dühring, Philadelphia.

126 A Nodular, Terminating in a Ring Eruption (Granuloma Annulare). G. W. Wende, Buffalo.
127 *Osteopathies of Quaternary Syphilis (Gaucher). J. M. Winfield, Brooklyn.

125. **Chronic Inflammatory Skin Diseases.**—Dühring points out that some cases of eczema, psoriasis and other diseases are *readily amenable to treatment, local or internal, or both,* while others do not respond to the same line of treatment. The cutaneous lesions in appearance and pathologic anatomy may be the same in both sets of cases, yet they behave altogether differently under the same treatment. The reason, he says, may be found in what he believes to be an observation not sufficiently recognized, namely, that while the cutaneous lesions may be the same or closely similar in many cases, the causes producing them are not only varied, but may be entirely different in nature. The internal causes, whatever these may be, producing the cutaneous disturbance should be studied more closely and treated by appropriate means. Factors giving rise to disordered states of one or another part of the economy, require to be more closely investigated than is usually done. The rôle of general medicine should be brought into action more than is customary. For some cases it is indispensable. For nearly all, if not all, the chronic or persistent or recurring cases of eczema, and for some of the cases of psoriasis, and for some other allied forms of inflammation, Dühring believes there exist specific or general etiologic factors that must be determined on the plane of general medicine, and relieved by some means or other if the patient is to be permanently cured. Local treatment alone is inadequate for most of such cases.

127. **Osteopathies of Quaternary Syphilis.**—Winfield examined 46 patients which he divided into two lots: The first 17 individuals were simply examined for the external signs of inherited syphilis, and the second 29, in addition to the external examination, were subjected to the v. Pirquet tuberculin test and the Noguchi modification of the Wassermann test for syphilis. The ages of the patients ranged from 6 months to 14 years. Nine, of the first lot of 17, had Pott's disease; 3 of these had malformed heads (Olympic); 3 had typical Hutchinson's teeth, and 1 patient had both a misshapen head and pegged teeth. The remaining 8 of the 17 were suffering from hip disease; 3 of these had dental stigmata, and 2 had malformed heads. The total out of the first 17 who presented suspicious stigmata was 12, but according to the dictum of Gaucher only 1 of the 12, the individual with dorsal Pott's disease who had two dystrophies, Hutchinson's teeth and a malformed head, could be considered syphilitic.

Ten of the second lot of 29 were suffering from diseased spine, and 11 had disease of the hip, 3 had disease of both hip and spine, 2 had suppurating sinuses of the feet and ankles, and 2 had had abscesses of the wrists and hands. All the patients were tested for tuberculosis by the cutaneous method of v. Pirquet, and all but one reacted positively, some reacting more markedly than others; the greatest reaction was obtained in a child who had all the characteristic signs of inherited syphilis, and the family history obtained from the mother left no doubt but that the child was a victim of the inherited taint; this case also gave a positive Noguchi-Wassermann reaction. Ten out of the 29 had some stigmata suggestive of syphilis; such as Hutchinson's teeth, high-arched palates, saddle-noses, overhanging foreheads and other malformations of the head; 16 had no suggestive signs and 4 left the hospital before the examination was completed. Four of the patients with external signs suggestive of inherited syphilis and 6 who were absolutely free from all stigmata, reacted positively to the Noguchi-Wassermann test, making a total of 10 positive Wassermann tests out of the 29 examined, about one-third. The most marked reaction was in patients who had two or more dystrophies, and 2 with multiple abscesses of the wrist and hand, and 1 of those with sinuses of the foot. Three with a positive Wassermann reacted feebly to the v. Pirquet test, but the remaining 7 gave a marked reaction.

One patient out of the 29 did not react to either test; this was a baby about 6 months old, which undoubtedly was suffering from syphilis, and the probable reason why it was Wassermann negative was because it had been taking antisyphilitic remedies. Six of the patients with suggestive somatic signs, and who were negative to the Noguchi-Wassermann test, had been treated for syphilis. Winfield points out that this brings up the question, Can tuberculosis and syphilis exist simultaneously in the same individual? And is it possible to get a positive Wassermann reaction in all patients with inherited syphilis, who have not been treated for the disease?

Kansas City Medical Index-Lancet, Kansas City

September

128 The Causes and Prevention of Nervous Diseases. J. Punton, Kansas City.
129 Drug Eruptions. W. Frick, Kansas City.
130 The Anglo-American Medical Association of Berlin. F. C. Neff, Kansas City.
131 Charcot's Disease. B. A. Poorman, Kansas City.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

The Lancet, London

September 11

1 Forty Years of Hospital Experience. A. J. Pepper.
2 Three Cases of Sporadic Cretinism. G. R. Murray.
3 *Rabies, with Notes on Thirty Cases. W. J. Maloney.
4 *The Etiology of that Form of Dislocation of the Hip-Joint which is Generally Regarded as Congenital. R. Thompson.
5 *Vaccine Treatment of Somewhat Unusual Interest. E. W Allen.
6 Use of the Ultramicroscope for Early Diagnosis of Syphilis H. W. Bayly.

3. **Rabies.**—The only noteworthy point in the postmortem examination of the 15 cases in this series that terminated fatally was the presence in all but one of marked increase in the cerebrospinal fluid; the relief of the intracranial tension by lumbar puncture was found in three cases to be of some value in quietening very irritable patients; six series of experiments with the fluid as a means of antemortem diagnosis produced negative results. From the few cases cited it is obviously extremely difficult to assert that any patient is suffering from incipient rabies, so alleged cures may be discounted. Treatment after the disease was definitely declared proved invariably futile.

4. **Congenital Dislocation of Hip-Joint.**—Thompson suggests that in some cases that form of dislocation of the hip-joint which occurs in young infants and children without any apparent violence, and which is usually regarded as congenital, in reality may be due to pressure exerted on the hip-joint during the adoption of the erect attitude of such a nature as to produce displacement of the head of the normal femur from a nearly normal acetabulum. The history of a well-developed girl with dislocation of the hip rarely goes back before the adoption of the erect attitude. The fact that the child is well-developed is a considerable factor in the argument in favor of the condition being static rather than congenital. The female hip-joint is weaker and acts at a greater mechanical disadvantage than the male joint. The theory of the dislocation being congenital has so far entirely failed to explain the great preponderance of cases in females. This preponderance is explained by a reference to the comparative anatomy of the joints of the two sexes. The suggestion that the condition is static more easily explains the different conditions which may be encountered in the cases of so-called congenital dislocation of the hip, which should be called static dislocation.

5. **Vaccine Treatment.**—The cases treated by Allen were the following: (1) Double systemic infection by *the Streptococcus conglomeratus* (*scarlatinæ*) and the *Staphylococcus aureus;* (2) pneumococcal septicemia, arthritis and intramuscular abscesses; (3) pyuria; (4) delayed resolution after pneumonia; (5) infection of the antrum of Highmore by the *Bacillus influenzæ* and the pneumococcus; (6) asthma and bronchitis. Careful bacteriologic examinations in over 20 cases of asthma have failed to reveal the constant presence of any one particular organism; each case presents a complex picture, most swarm with micro-organisms, and a few have shown within the casts and spirals nothing but short streptococci, and Allen feels that a variety of streptococci is of considerable importance in the production of some of the symptoms of certain cases of severe bronchial asthma. Most of the patients are still under treatment and it is difficult to forecast the ultimate results. The majority are benefiting; in two or three the bronchitis has improved greatly, but on the asthma no beneficial effect whatever has been exercised.

British Medical Journal, London

September 11

7 Injuries of the Optic Nerve. J. J. Evans.
8 *Value of Surface Signs in the Diagnosis of Deep-Seated Disease. C. L. Isaac.
9 Oriental Sore of Northern India: A Protozoal Infection. R. M. Carter.
10 The Intensive Treatment of Syphilis by Aachen Methods. R. Hayes.
11 Case of Syphilis (Syphilis D'Emblee) without a Primary Chancre. A. C. Magian.
12 *Very High Specific Gravity of the Urine in Healthy Women. H. French.
13 *Partial Gastrectomy for Gastric Carcinoma: Recovery. H. B. Robinson.
14 Viper or Adder Bite (Vipera Berus). R. S. C. Edleston.
15 p Reflexes. J. M. MacCormac.
16 Local Lesions. C. A. Mercier.
17 of Inebriety. T. D. Crothers.
18 G. E. Shuttleworth.
19 Commission on the Care and Control W. R. Dawson.
20 Medical Psychology. A. T. Schofield.
21 The Skeleton in Achondroplasia. A. F. Dixon.
22 Points in the Mechanic Scanes-Spicer.
23 Phosphatides in the Li H. MacLean.
24 Deep Afferents: Their C. S. Sherrington.
25 Reconstruction Models of the Fetal Pelvis. D. Waterston.
26 Reply to Certain Criticisms of Observations on the Effects of Inhalation of Oxygen on Muscular Exertion. L. Hill.
27 The Structure of the Pancreas in Relation to Function. J. S. Goodall and H. G. Earle.
28 The Biochemistry of Hemolysis. B. Moore.
29 Development of the Heart. P. Thompson.
30 Distribution of the Intercostal Nerves. H. M. Johnston.
31 Features that Make for Persistence. R. J. Anderson.
32 Results of Uniformity of Action and Habit. R. J. Anderson.
33 The Cervical Pleura. J. S. Dickey.
34 The Chondro-Cranium of the Trout with Reference to the Brain and Cranial Nerves. N. C. Rutherford.
35 Discharge of Sewage Effluents into Tidal Water. H. O'Neill, E. A. Letts, and T. Carnwath.
36 Measles in Schools: An Account of a Recent Epidemic in St. Helens. J. J. Paterson.
37 Prevention of Tuberculosis in Cattle. J. Niven.

8. **Surface Signs in Deep-Seated Disease.**—Isaac claims that cutaneous hyperesthesia is of considerable value in the diagnosis of acute ulceration of viscera; that the neuromuscular reaction is of some value in the diagnosis of inflamed viscera; that myotatic irritability is by no means a negligible quantity; and the suggestion that there is a neuropigmentary sign in the skin of visceral disease proves that the question of superficial evidence of deep-seated disease is a far larger one than it at first seems, and offers considerable scope for both observation and research.

12. **High Specific Gravity of Urine in Healthy Women.**—On examination of 150 healthy nurses French found that a specific gravity even up to 1040 is by no means necessarily an evidence of ill-health in a woman. In the earlier cases it must be thought that there must be some error in the recording instruments; but this source of fallacy was excluded by the use of several different urinometers, each of which was tested separately; all recorded similar results for the same urine.

13. **Partial Gastrectomy for Carcinoma.**—The growth in this case was very limited, and the glandular involvement slight. This permitted removal of both with a fairly wide margin. The section of the stomach corresponded pretty well with the incision used by Mikulicz—that is, from just to the right of the cardiac orifice almost vertically downward to the greater curvature. The glands were rather soft and did not suggest involvement. An end-to-end junction after Billroth's method was used, as the cut edges could be easily brought into apposition. No trouble was experienced from leakage, the occurrence of which had led to the advocacy of other methods. The character of the growth was a colloid carcinoma. The man has been frequently seen since the operation, July 8, 1908; he has put on weight and remains free from symptoms.

Medical Press and Circular, London

September 1

38 Feeble-Minded Children. A. F. Tredgold.
39 Antigens, Antibodies and the Fixation Reaction or Deviation of the Complement. Prof. Chantemesse.
40 Visceral Syphilis. W. B. Washington.
41 The Inoculation Accident in Manila, Philippine Islands. W. M. Haffkine.

September 8

42 *Educational Number.

42. **Educational Number.**—This issue is devoted entirely to medical education.

Clinical Journal, London

September 1

43 Disorders of the Cerebral Circulation and their Clinical Manifestations. A. E. Russell.
44 *The Nature and Treatment of Surgical Shock. J. D. Malcolm.

44. **Treatment of Surgical Shock.**—Malcolm believes that the true explanation of the vascular changes of shock is that they depend on an exaggeration of the physiologic action by which stimulation of sensory nerves causes increased vascular and cardiac muscular efforts. This at once raises blood-pressure in the large arteries and lowers it in the small arteries. The lowering extends to the larger vessels in proportion to the degree of irritation. The heart is at first increased in power. Later it becomes relatively weak and its pace hastens. Its relaxation in diastole becomes so limited that it cannot take from the veins a normal quantity of blood and its output is therefore diminished; consequently the venous system becomes engorged, serum escapes from the vessels and from the body, and, if the action is sufficiently prolonged and severe, blood is almost certainly destroyed as in a fever. Thus the amount of blood in the body diminishes, and in fatal cases death is caused by a shutting-off of the blood-supply from the nervous centers. If recovery occurs, when relaxation takes place there is a marked disproportion between the diminished quantity of the blood and the vascular capacity, and therefore there is much danger from the collapse frequently observed in conditions of anemia. Therefore treatment should be directed to relaxing the vessels as shock develops and to filling them up as soon as relaxation begins. Vasoconstrictors should not be given, and attempts to dilate the vessels rapidly and forcibly should not be made. Vasodilators are indicated, but these may induce an even more dangerous condition if fluids are not at the same time supplied to fill the relaxing vessels. Complete quietude, especially in the early stages of recovery, is necessary to prevent collapse, and of course, the patient should be kept warm and recovery from the anesthetic must be attended to. The patient should not be drained of fluid by preliminary treatment, but, when time is available, this does not preclude attention to the condition of the alimentary canal, an overloaded state of which is so undesirable. All causes of weakness should be obviated as much as possible, and septic conditions should be anticipated by every means in our power.

Dublin Journal of Medical Science

August

45 Report on an Outbreak of Scarlatina in Lurgan. J. S. Darling.
46 Clinical Reports of the Rotunda Hospital (continued). E. H. Tweedy.
47 Acute Parotitis in Pneumonic Fever. Sir J. Moore.

September

48 *Valvular Disease of the Heart with Anomalous Symptoms. J. Little.
49 Hemophilia. J. E. M'Causland.
50 Clinical Reports of the Rotunda Hospital (continued). E. H. Tweedy.

48. **Valvular Disease of the Heart.**—A woman, aged 31, had been troubled with palpitation for six years. Her feet and legs had been somewhat swollen for two months, and her abdomen had become enlarged during three weeks before admission to the hospital. She was breathless on exertion, and felt very tight and uncomfortable in the upper part of the abdomen. The liver was manifestly swollen, and with distended jugulars pointed to overfulness of the right cavities of the heart. The day after admission to the hospital the legs were no longer swollen; the distention of the abdomen seemed due to flatulence, as a resonant note was produced all over it by percussion. The urine was free from albumin and fair in quantity. A loud systolic murmur was audible over the entire cardiac region and a diastolic murmur was at first to be heard along the sternum. When 6 years old, the woman had had scarlatina. From the first the patient had a symptom not usual in heart disease, except when rheumatism is actually present. She was nearly always bathed in perspiration. The application of six leeches over the liver gave relief to her feelings of oppression and to her breathlessness. Her temperature all this time was, as a rule, subnormal; the pulse varied between 80 and 90. At the end of a week a flatulent distention of the abdomen rather suddenly disappeared. At the end of a fortnight she was allowed up pre-

paratory to going home. In the third week, however, she became mentally affected; she would not speak; she refused her food, disliked to see her husband, and at night was sleepless and noisy. The influence of drugs was curious; a hypodermic of morphin made her excited; the 1/200 of a grain of hydrobromid of hyoscin distinctly quieted her; trional in a dose of 20 grains secured sleep. All this time the sweatings continued, and in particular she often awoke out of a troubled dream bathed in perspiration. Her temperature began to rise a little at the end of the third week. For three days it did not pass 99 F., then it rose to 100, then to 101.8, and the following day to 105 F.; two days later, on the day of her death, it fell to 102 F. A few hours before her death, though she took nourishment freely, she was pulseless; no murmur could be heard.

The body was opened twenty-eight hours after death. The pericardium was injected, and the heart weighed 1 pound 5 ounces. When the great vessels were severed, a quantity of perfectly fluid blood escaped. On opening the left ventricle, its walls were found greatly thickened, but its cavity was small. When water was poured into the aorta it did not escape through the valve, and when the finger was pressed against the valvules either from the aorta or from the ventricle, it encountered a dense calcareous and spiculated mass, which appeared as if it must have entirely closed the orifice of the vessel. The left auriculoventricular orifice would admit only one finger; the two portions of the mitral valve were welded together, and the ring which they formed was thickened. The left auricle was greatly dilated, and its coats were thickened. The right side of the heart presented somewhat similar appearances. The cavity of the ventricle was enlarged and its walls were thickened; the right auriculoventricular orifice with difficulty admitted the tips of two fingers, and the valvules forming the tricuspid valve were welded together just as those forming the mitral valve had been. There was nothing like septic endocarditis; the aortic valvules, instead of being eaten away by necrotic change, had been converted into calcareous structures.

Intercolonial Medical Journal of Australasia, Melbourne

July

51 *Experimental [illegible] G. A. Knight.
52 Adrenalin as [illegible] ient in Cyanid, Strychnin and other F [illegible] Poisoning. J. L. Jona.
53 Metallic Balance in Saline Aperients. W. A. Osborne.
54 *Curious Case of Antenatal Disease. W. H. Summons.
55 X-Rays in Treatment of Tuberculous Diseases. T. G. Beckett.

51. **Experimental Pathology of Diabetes.**—Knight fed animals (goats and rabbits) on food containing a very low proportion of fat, namely, bread 1 per cent., chaff 1.5 per cent., and young carrots 0.3 per cent. The animals thrived well, were killed after from three to seven days, and the amount of fat in the mucous membrane of the small intestine was estimated. In the case of goats, a quantitative estimation of the fat was made; also secretions of the intestine were examined under the microscope. In the case of the rabbits, sections were taken at different parts of the small intestine and examined for fat microscopically. A goat was fed for two days on white bread (1 per cent. fat). On the morning of the third day, the animal took a good meal of bread and water; five hours later it was chloroformed, bled by the carotid artery, and the abdomen immediately opened. The duodenum and small intestine were then removed from their mesenteric attachments. The first 6 feet of intestine contained 1.46 per cent. of fat, the middle 6 feet of intestine contained .982 per cent. of fat. Average, 1.2 per cent. of fat.

A goat fed on chaff for several days was starved for one day, then given a feed of chaff, five hours later was chloroformed, bled and the abdomen opened. The duodenum and small intestine were removed from the mesenteric attachment. First 6 feet of intestine (36 grams of mucous membrane) = .91 grams of fat—2.5 per cent. Third 6 feet of intestine (15.5 grams of mucous membrane) = .5 grams of fat—3.2 per cent. Fifth 6 feet of intestine (18.2 grams of mucous membrane) = 1.4 grams of fat—7.6 per cent. Seventh 6 feet of intestine (17.9 grams of mucous membrane) = .5 grams of fat—2.7 per cent. The mucous membrane of the intestine, therefore, averaged 4 per cent. fat.

Another goat was fed on chaff for three days, chloroformed, bled and four portions of intestine taken. First 6 feet of intestine contained 5 per cent. fat; third 6 feet contained 5.6 per cent. fat; fifth 6 feet contained 6.8 per cent. fat; seventh 6 feet contained 1.9 per cent. fat. Average 4.8 per cent. fat. If Pavy's theory that carbohydrate is converted into fat were correct, one would expect a much larger percentage of fat in the mucous membrane of the intestine, seeing that the animals were fed on a diet containing a low proportion of fat and a fair proportion of carbohydrate. In an attempt to prove or disprove the correctness of Pflüger's theory, Knight performed the following experiments: 1. Ligation of vessels between pancreas and duodenum, leaving duct intact. 2. Ligation of vessels, including duct and separation of pancreas from duodenum. 3. Extirpation of duodenum. 4. Cauterization of duodenum. Extirpation of the duodenum, and separation of the pancreas from the duodenum failed to demonstrate any glycosuria, while cauterization of the duodenum in one case only elicited a doubtful glycosuric condition. No experiments were done on the neurohepatic theory, but Knight points out that all conditions giving rise to a rise of blood pressure are liable to produce glycosuria.

54. **Antenatal Disease.**—The baby in Summon's case was born precipitately about fourteen days prematurely, and was a small child. Immediately after birth it was noticed that there was something wrong with the child's legs. There was no calcification in the femora, tibiæ or fibulæ. The feet appeared normal, also the pelvis. There was no trouble with the arms. The flat bones of the skull were deficient in calcification, but no crackling was present, the fontanelles being wide, and connected by a broad interparietal uncalcified space. The bones in the legs were so soft that they could be bent about like rolls of putty. On palpation, there was a crackling feeling, with irregularity and thickening, a feeling like that noted over subperiosteal hemorrhages. An important point noted was great tenderness of the lower limbs; the pain prohibited all voluntary movement of the legs. There was a large hemorrhage into the left side of the scrotum, and the urine was dark colored for two days after birth, producing dark stains on the linen. It was not decided that it contained blood. The legs were shorter than in a healthy child, owing to the deformity of the bones, but were otherwise normal.

The child was placed in a cardboard frame, with the legs suspended, and mercury was administered. Calcification has progressed irregularly, and great thickening and deformity may now be felt. The father states that there is no possibility of venereal disease. The mother, married young, was rather depressed during pregnancy, and had a prolonged bronchitis. She has never miscarried, and presents no evidence of scurvy.

Annales de Gynécologie et d'Obstétrique, Paris

August, XXXVI, No. 6, pp. 449-512

56 Negative Ocular Tuberculin Reaction in 500 New-Born Infants. M. Duverger.

Archives de Médecine des Enfants, Paris

September, XII, No. 9, pp. 641-720

57 *Exceptionally Large Doses of Diphtheria Antoxin in Malignant Sore Throat and Diphtheritic Paralysis. H. Méry and others.
58 *Leucemia in Infants. (La leucémie chez le nourrisson.) L. Babonneix and L. Tixier.
59 Two Cases of Fatal Diphtheritic Paralysis. J. Comby.

57. **Diphtheritic Paralysis.**—Méry states that 9 children succumbed to diphtheritic paralysis last year in his 622 cases of diphtheria; and 3 others died of the malignant sore throat without paralysis. Since then he has increased the dosage in such cases and the results have been much better. He reports 18 unusually severe cases in which the impending catastrophe was warded off by the repeated large doses of antitoxin, with 5 others in which the ordinary dosage was used, with fatal outcome. His experience confirms the value of this intensive antitoxin treatment in the unusually severe cases, keeping up the antitoxin during convalescence. While it did not prevent the development of paralysis entirely, yet the latter never appeared except in an attenuated form. Nothing suggesting

anaphylaxis and no disturbances from the antitoxin were observed in any instance. The daily dosage ranged from 40 to 60 c.c. for several days. Then, after the throat was clean, from 10 to 20 c.c. were given every day or second day. The antitoxin was given daily and the dose was increased if signs of paralysis appeared until some of the children had received over 500 c.c. of antitoxin, and all recovered. Méry affirms that there need be no fear of anaphylaxis on this dosage as that is the result of introduction of a small dose of antigen into an organism saturated with antibodies. When the antigen is supplied in large amounts, anaphylactic accidents do not occur as clinical experience has abundantly demonstrated confirming the theoretical premises. Even when the children showed signs of "serum disturbances" he did not hesitate to continue to inject more antitoxin, and the favorable outcome realized his anticipations.

58. **Leucemia in Infants.**—Babonneix and Tixier summarize from the literature 4 cases of congenital leucemia, 13 of lymphatic leucemia, including one from their own experience, 8 of myeloid and 3 of atypical leucemia, all in infants, some of whom were breast-fed. The leucemia developed between the first and second year in 13 of 21 cases; the majority were male infants. Death occurred within a few days in some cases. No treatment has been found effectual, but there is no record to date of Roentgen-ray treatment having been applied to an infant for leucemia.

Lyon Chirurgical, Lyons

September 1, II, No. 4, pp. 407-522

60 *Operative Treatment of Inflamed Inguinal Glands. (Extirpation des adénites inguinales inflammatoires.) L. Imbert.
61 *Surgical Treatment of Gastric Cancer. X. Delore and H. Alamartine. Commenced in No. 3.
62 Anatomic Conditions with Undescended Testicle. (Etude anatomique d'un cas d'ectopie testiculaire.) H. Muller.
63 *Resection of Cancerous Rectum by the Sacro-Coccygeal Route. A. Chalier.

60. **Inguinal Adenitis.**—Inflammation of the inguinal glands sometimes runs a subacute course which allows the individual to continue at work, but this retards spontaneous cure. The suppuration in these glands, Imbert states, occurs by a series of small independent foci in turn. The best treatment is by radical excision; this induces a complete cure and more rapidly than simple incision, even with curetting. His remarks apply only to simple inflammation, not of venereal or tuberculous origin. In his experience at Marseilles he has operated in this way in 21 cases, with satisfactory results, and he regards it as indicated whenever the tumor does not subside after a week in bed.

61. **Surgery of Gastric Cancer.**—Delore reviews the experiences in Poncet's service with 158 operations for gastric cancer, including 43 resections.

63. **Resection of the Cancerous Rectum.**—Chalier advocates the mode of access by resection of the sacrum and coccyx. The only means of disinfecting the rectum beforehand seems to be with superheated air at from 300 to 500 C.; a preliminary artificial anus is of great service. The upper stump after resection is invaginated in the sphincter stump, and is brought out and sutured to the skin outside of the anus; the various steps of the operation are shown in nine illustrations. It is important to retain sufficient vessels in the invaginated stump to insure against gangrene.

Lyon Médical, Lyons

August 22, XLI, No. 34, pp. 309-348

64 *Oxygen in Threatening Whooping Cough. (L'oxygène dans les coqueluches graves.) E. Weill and G. Mourlquand.

August 29, No. 35, pp. 349-388

65 Malte[illegible] farines de céréales et de [illegible]mbert.
66 Visibl[illegible] (Tension intermittente de [illegible] A. Mollière.

64. **Oxygen in Pertussis.**—Weill has used oxygen in treatment of threatening paroxysms in whooping-cough in thirty cases, and has found it a valuable aid in warding off bronchopneumonia and suffocation. The oxygen is given at each paroxysm; if possible, just as it begins. The cyanosis subsides and the child is relieved and keeps in good condition, with appetite, throughout. The oxygen renders the lung aseptic and thus may arrest incipient infectious processes. The oxygen must be used freely; at least 10 or 12 liters are necessary to control a paroxysm, and if there is danger of bronchopneumonia, the oxygen should be inhaled systematically every hour. It is best inhaled through a funnel during the paroxysm and can thus be given even while the child is asleep.

Presse Médicale, Paris

September 4, XVII, No. 71, pp. 625-632

67 *L[illegible]bances and Ptosis of Heart [illegible]ryngés et respiratoires et
68 *Autoserotherapy in Pleurisy. (L'autosérothérapie pour activer la résorption des épanchements pleuraux.) Marcou.

67. **Respiratory Disturbances with Ptosis of Heart and Diaphragm.**—Scherb describes a case of movable heart with ptosis of the heart, diaphragm, liver and intestines, associated with phobias and obsessions involving the organs required for the patient's livelihood. The patient was a man of 53, a professional cathedral chorister, with an unusually powerful bass voice. In his singing he had evidently overstrained the respiratory organs, and about six years ago he suddenly felt intense pain in the region of the heart, and lost his voice with other symptoms of extreme ptosis of the diaphragm and heart. The sensations induced by the movability of the heart he interpreted in almost delirious fashion, resulting in an obsession of respiration and phobia of inspiration. The case shows the importance of seeking for some organic defect or displacement in every case of pathologic emotional disturbances. The importance of ptosis of the viscera in the pathogenesis of intermittent states of disturbance in the emotional sphere and will power is becoming recognized more and more. In this case, the explanation for the respiratory neurosis was found in the ptosis of the heart and diaphragm, this assumption being confirmed by the results of wearing a supporting band to hold the organs in their proper place. This put an end to the disturbing ptosis and the neurosis, and restored the chorister to the choir.

68. **Autoserotherapy for Pleural Effusion.**—Marcou makes a practice of exploratory puncture in every case of pleural effusion. If the fluid is free from pus he reinjects it directly again into the subcutaneous tissue through the same needle which is not withdrawn; the direction of the point is merely altered to bring it into the subcutaneous tissue. These autoserum injections are repeated at intervals of two or three days, the amount injected generally being from 1 to 5 c.c. He has made over 150 injections on 82 patients, and a number have been cured and under observation for three or four years. Adding those reported by Tchigaeff at St. Petersburg, by Dehio at Dorpat and others, this makes a total of 168 cases in which this treatment, first suggested by Gilbert of Geneva, has been applied to promote the absorption of pleural effusions with eminently satisfactory results, subjective and objective, immediate and remote. Marcou explains the benefit as due to the stimulation of formation of an antipleuritic substance by the injection of a product of the pleuritis. The formation of this antibody in the organism determines the rapid cure of the pleurisy. In most cases the pleural effusion is rapidly reabsorbed, but the causal affection continues its course. The most convincing cases are those with large effusions of recent date. Marcou is now encouraged to apply this same procedure in treatment of ascites. One advantage of this method is that there is much less danger of formation of adhesions and of retraction than when thoracocentesis is done. Most of his cases were in out-patients.

Semaine Médicale, Paris

September 8, XXIX, No. 36, pp. 421-432

69 *Physiologic Research on Application of Leeches. (Recherches physiologiques sur les applications de sangsues en clinique humaine.) P. E. Weil and G. Boyé.
70 *Should Salt Food be Forbidden after Administration of Calomel? (Y a-t-il lieu de défendre les aliments salés après l'ingestion de calomel?) L. Gaucher and R. Abry

69. **Physiologic Research on Effect of Application of Leeches.**—The use of leeches is generally decried nowadays as contrary to asepsis, and wet-cupping and similar measures are supposed to answer exactly the same purpose without the drawbacks of the leeches. Weil has been the pioneer in the treatment of hemophilia with injection of normal serum, and

in the course of his research in this line he had occasion to study the effects of application of leeches. He found that the phenomena observed are different from those with wet cupping. In the first place, with the latter a certain amount of blood is drawn, but as soon as the cup is removed the flow of blood ceases. With leeches, on the other hand, the blood continues to ooze after they are removed, until from three to six ounces escape in the course of a day or so. Girardet has even reported a case in which after application of two leeches the total amount of blood lost reached thirty-seven ounces. Weil's research has explained the reason for this. It has demonstrated that the leeches seem to introduce into the organism some special substance which induces an acute, transient, local hemophilia, resembling in many respects true general hemophilia such as is induced in rabbits by intravenous injections of extract of leeches. The blood in the region is rendered incoagulable and the leech-hemorrhage persists until an amount of blood may be lost comparable to that of a considerable venesection. Wet cups, on the other hand, have no such action on the composition of the blood. When a general blood-letting is desired, leeches should be given the preference, he declares, even over venesection, unless promptly vigorous action is required, as there is no disturbance from the general or local disturbances from them, and the minute wound they form is never accompanied by infection.

70. **Calomel and Salt in Food.**—A boy of 14 with an artificial anus in the upper half of the small intestine was given calomel and the chyme was taken from the fistula and mixed in test-tubes with sodium chlorid in conditions approximating those in normal intestinal digestion. The mass was examined for the presence of bichlorid of mercury at various intervals, the aim being to settle the question as to whether the ingestion of salted foods with calomel leads to the production of corrosive sublimate in the digestive tract. The findings were constantly negative.

Beiträge zur Klinik der Tuberkulose, Würzburg

XIII, No. 3, pp. 245-437. Last indexed September 18, p. 980

71 *Effect of Tuberculin Treatment on Tuberculosis in Children. (Verhalten der kindlichen Tuberkulose gegen Tuberkulin.) Engel.
72 Processes of Immunization in Tuberculosis. (Das Komplemen- [illegible] insbesondere in der Tuberkulose- [illegible]
73 * [illegible] nd Specific Therapy. J. Bauer and Engel.

71. **Tuberculin Treatment of Tuberculosis in Children.**—Engel devotes nearly 140 pages to the detailed report of the experiences with tuberculin treatment in the children's clinic at Düsseldorf. The principle followed was first to accustom the child to a large dose and then to continue to treat him with this dosage. The children are kept in bed at first and the temperature is taken in the rectum every two hours; the injections are made between the shoulder blades. The extent of the tuberculous process determines the reaction, independent of the age of the child. Typical child tuberculosis is distinguished by a great tolerance for tuberculin. The tendency to reaction grows less when the dose which was borne without reaction is repeated several times before increasing it. When the optional maximal dose is once determined, the children are treated afterward as out-patients, the injections repeated at intervals graduated to prevent too vigorous reactions. When the child tolerates 0.01 c.c. tuberculin the reaction to the v. Pirquet test usually ceases; this test may serve as a guide for the dosage of tuberculin. His experience shows, he asserts, that it is incorrect to speak of latent tuberculosis in children; the affection may be occult and non-localizable in a child, but it is never latent. When the process has spread beyond the lymphatics the prognosis is less favorable. An acute tuberculosis in apparently healthy children is generally merely the end of an occult process, and these processes should be combated by every means. In 8 children between 3 and 8 months old the tuberculous process was apparently arrested by the tuberculin in all but one, while the medication did not interfere with the development of the children. In one case the physical findings indicated an apical process, but the recovery under tuberculin showed that the process must have been restricted to the glands. He advocates tuberculin treatment in all cases in which the lungs are not involved. There also a chance for benefit if the lung process is small with little tendency to progress, but progressive pulmonary tuberculosis contraindicates tuberculin and only discredits this method of treatment. The children thrive under the tuberculin. Fever does not necessarily exclude tuberculin treatment; small doses may even banish the fever. Fifteen curves are appended to show the dosage and progress of some of the little patients less than a year old.

73. **Immunity to Tuberculosis and Specific Treatment.**—Bauer and Engel state that the immune bodies are not found in the blood until after the children have been given comparatively large doses of tuberculin. Their experience indicates that 2 c.c. is the most favorable maximal dose. Regarding the antibody content of the blood as a favorable factor for recovery, they strive to keep it at its highest point, and found this was best accomplished by continuing with the maximal dose to support the curative efforts of Nature in conjunction with all other hygienic and dietetic factors. They are convinced that their experience with children offers a more rational basis for tuberculin treatment. Former studies of the subject have almost all dealt with tuberculous adults, while in children the local process is not so extensive. They are unable to offer direct proof of the assumed fact that the curative process is in direct relation to the antibody content in the blood. Proof of the parallelism between results in the test-tube and the process in the living organism can be obtained only by empirical observation of large numbers of cases over long periods.

Berliner klinische Wochenschrift, Berlin

September 6, XLVI, No. 36, pp. 1637-1676

74 Cobra Venom Hemolysis in the Insane. (Die Kobragifthämolyse bei Geisteskranken.) O. Pförringer and F. Landsbergen.
75 Suprarenal Tumor. (Ueber einen chromaffinen Tumor des Nebennierenmarks.) S. Suzuki.
76 Influence of Intravenous Saline Injection on Active and Passive Anaphylaxis in Guinea-pigs. E. Friedberger and O. Hartoch.
77 *Dental Surgery. (Einige Fälle aus der technischen Zahnheilkunde.) Warnekros.
78 Importance of the Wassermann Reaction for Treatment of Syphilis. Blanck.
79 *Tetanus from Catgut. R. Kleinertz.
80 Determination of Hemochromogen Crystals. (Neue und beste Methode zur Erlangung der Hämochromogenkristalle.) A. de Dominicis.
81 *Treatment of Rectal Prolapse. (Zwei Fälle von Rektumprolaps.) C. Goebel.
82 Symmetrical Enlargement of the Parotids. (Symmetrische Parotisschwellung.) Id.
83 Reform in Administration of Insane Asylums. (Zur Standesfrage der Irrenanstaltsärzte.) F. Hoppe.

77. **Dental Orthopedics.**—Warnekros reports some cases in which with the aid of dentistry methods satisfactory substitutes for large parts of the jaw were provided. In one case of bilateral luxation of the lower jaw, irreducible for sixteen years, good functional results were attained by dividing and resecting the jaw, the parts being held in place with a dental appliance until healing was complete. In another case the patient was unable to close his teeth properly and this also was remedied by resection and a celluloid dental splint appliance. The cooperation of the surgeon and dentist is especially valuable, he adds, in treating cleft palate, and cites some examples to illustrate this. He declares that in fully 75 per cent. of all cases caries is the result of defective or lacking articulation of the separate teeth involved. The loss of even a single tooth throws the chewing mechanism out of gear, imposing more work on some parts of the gum than others, while the shrinking of the gum disturbs the harmony of the projecting gum, etc., that protects the teeth, cheeks and tongue against injury. He advises prompt substitution of a lost tooth as the best means of prophylaxis against alveolar pyorrhea.

79. **Tetanus from Catgut.**—Kleinertz tabulates 33 cases, reports of which have been published in German medical literature alone. In 3 "cumol catgut" had been used, in 3 catgut prepared by the Hofmeister formalin technic, in 3 by the Saul and 2 by the Bergmann technics. The outcome is not known in a number of cases, but recovery is mentioned in only 2 and death in 17. The methods and scrupulously aseptic technic, from the first, of antitoxin production should be applied to the preparation of catgut instead of the usual haphazard [illegible]ods before the actual sterilization.

81. **Rectal Prolapse.**—In the first case a Thiersch ring was applied, and after failure at first and recurrence in a few months, a renewed application of the ring induced a permanent cure. The ring was also used in a second case, accompanied by resection by the Mikulicz technic, with satisfactory results. Piqué has reported 27 cured out of 33 patients treated with the Thiersch silver wire ring. Scraps of wire may be eliminated later, but the desired purpose is accomplished before this can occur, cicatricial tissue developing and preventing recurrence of the prolapse. Goebel remarks that the different prolapse operations are not accurately estimated to date, as too many cases are reported before sufficient time has elapsed for the definite outcome to be known.

Centralblatt für die Grenzgebiete der Medizin und Chirurgie, Jena

September 3, XII, No. 16, pp. 609-640

84 *Treatment of Neuralgia by Deep Injections of Alcohol. J. Flesch. Commenced in No. 15.

84. **Deep Injections of Alcohol in Treatment of Neuralgia.**—Flesch reported last July 25 cases in which success almost invariably followed the application of deep alcohol injections. He here reviews 63 other communications on the subject, and describes the three methods in vogue. Flesch adds his commendation to those of the other writers, having found the peripheral deep injections reliable and only slightly painful, while they have the further advantage that they can be repeated as often as is necessary. Kiliani has reported 47 patients cured by peripheral or central alcohol injections in 55 thus treated, the neuralgia having resisted the other usual measures for from one to twenty years. The articles on the subject in THE JOURNAL a year or so ago are summarized with considerable detail.

Deutsche medizinische Wochenschrift, Berlin

September 2, XXXV, No. 35, pp. 1506-1552

85 Systolic Functional Heart Murmurs. (Systolische funktionelle Herzgeräusche.) S.
86. Aërated Bath Water. ator.
87 Conception of Diseas fsatz Aschoffs "Ueber den .
88 Roentgen Ray Diagnos pe of the Stomach. (Zur erän-derungen des Magen E. Schlesinger and F. Holst.
89 Guaiac Test for Blood in Stools and Sources of Error. (Ueber Blut im Stuhl mittels der und Aloinprobe mit be-bei vorkommenden Fehler-[illegible]
90 Regular Appearance of Tuberculin Antibodies in Course of Specific Treatment and their Significance from Therapeutic Point of View. (Ueber das gesetzmässige Auftreten von Tuberkulin-Antikörpern im Laufe der spezifischen Behandlung. M. Pickert.
91 Testing Heart Functioning. (Zur Prüfung der Herzfunktion.) E. Homberger.
92 The Tschernugobow Modification of the Wassermann Reaction. A. Stühmer.
93 Two Cases of Torsion of the Omentum. (Zur Frage der Netztorsion.) G. Seefisch.
94 The Physiologic Osteoid in the Fetus and New-Born Infant and its Importance for the Histologic Diagnosis of So-called Congenital Rachitis and Syphilitic Osteochondritis. E. Wieland.
95 Connection Between Infection and Flatfoot. (Beziehungen zwischen Infektion und Plattfuss.) J. Lewy.
96 Means to Prevent Conception. (Eine Mittel zur Verhütung der Konzeption.) R. Richter.

Medizinische Klinik, Berlin

August 29, V, No. 35, pp. 1291-1338

97 *Treatment of Diabetes. C. v. Noorden.
98 *Methods of Examining Sputum. (Neuere Methoden der Uhlenhuth.
99 Pr N. P. Tendeloo.
100 Tu und Klinik der Tuberkulide.) E. Finger.
101 *Visible Gastric Peristalsis. (Zu äusserlich sichtbaren Magenbewegungen.) S. Laache.
102 *Gastric Mucosa in Pernicious Anemia. (Magenmukosa bei perniziöser Anämie.) S. Talma.
103 *Gastric Achylia with Anemia. K. Faber.
104 *Universal Asthenia. (Der Morbus asthenicus.) B. Stiller.
105 Oxaluria. (Bedeutung und Behandlung der Oxalurie.) H. Salomon.
106 New Needle and Technic for Deep Suturing. (Eine neue Methode zur Nahtanlegung in tieferen Körperteilen mit einer neuen Nadel.) I. Kubo.
107 *Arteriosclerosis. (Allgemeine Betrachtungen über die Arteriosklerose.) H. Huchard.
108 The Cortical Retina. (Ueber inselförmige Vertretung der Makula in der Sehrinde des Gehirns.) S. E. Henschen.

September 5, No. 36, pp. 1339-1376

109 *Flatulence. E. Schwarz.
110 *Value and Practical Importance of Serodiagnosis of Syphilis. Grosser.
111 *Permanent Hypertonicity of the Blood Vessels. (Permanente Hypertonie.) J. Pal. Commenced in No. 35.
112 Hot Water Treatment. (Die Heisswasserbehandlung in der Dermatologie.) C. Rosenthal. (Sensibilitätsstörungen und Heisswasserbehandlung.) A. Stern.

97. **Treatment of Diabetes.**—In this review of his own experience *v. Noorden expatiates on the great progress realized* in adapting the diet to the individual tolerance of the patient. His experience includes about 3,000 cases of diabetes during the last fourteen years, and with careful individualization the prognosis of the disease has been materially improved. Several hundreds of his patients under observation for more than seven years have been kept free from glycosuria by changing their diet occasionally, according to the metabolic findings, and they are all now in good health, free from any complications. Most of them must still be regarded as diabetics, as any carelessness in taking too much carbohydrate would certainly bring on the glycosuria again. He is waiting for the completion of the twentieth year to publish a thorough analysis of his experiences. Of course, it is impossible to keep the diabetes under control in every case. This is due in part to the malignancy of the process affecting the pancreas, but it is especially remarkable that in the cases with a rapid course, for example, in children and in young people, it is often impossible to detect any structural changes in the pancreas. Under the age of 30, glycosuria may occur for a time and then completely subside; he has observed this after acute infections; but when the diabetes appears in the form of severe glycosuria, persisting in spite of change of diet, with considerable amounts of ketone bodies, the prognosis is almost invariably very grave. The same occurring in older persons is of much less serious import, and he has several hundreds of elderly patients who have been kept free from glycosuria for more than five years and are in excellent general health and strength on their careful and regulated diet. These cases are much more numerous than is generally supposed, while in the young this form is extremely rare. Everything depends on the systematic dietetic measures being instituted early. The whole future of the diabetic is determined by the management of the case during the early stages, except in the really malignant cases. It is difficult to persuade the diabetic of the necessity for energetic measures during this early stage, for the disease has an especially dangerous deceptive property of leaving the general health unimpaired for several years and this is a constant temptation to disregard the needed precautions. In nearly every case the glycosuria occurs transiently at first, and is explained as a harmless alimentary or nervous phenomenon, but these so-called transient glycosurias become transformed later, if neglected, into true progressive diabetes. Not until every case of glycosuria receives the attention it deserves, and not until every diabetic has his diet regulated to conform to the individual indications, will the patients share in the benefit which is possible with appropriate dietetic therapy. Not until then will it become generally recognized that the prognosis of diabetes can become far more favorable than is the case at present with the ordinary routine measures.

98. **New Methods of Sputum Research.**—Uhlenhuth calls special attention to the antiformin method. This is a mixture of a solution of potassium hydrochlorite (Javelle water) with sodium hydrate. The proportion of alkali is 7.5 per cent sodium hydrate, and on the addition of the acid 5.3 per cent. chlorin is liberated. This mixture is so powerful that it dissolves bristles, horse hairs, insects and beetles in half an hour; wool and silk are also dissolved, but cotton and wax are unchanged. Bacteria are dissolved in five minutes in a 5 per cent. solution. Neither of the ingredients has this effect alone. The action of antiformin on scraps of iron is most remarkable; they assemble to form tree-like masses. Tubercle bacilli alone are not affected and the advantages of such a fluid for examination of sputum are evident. The bacilli are cleaned at once of mucus, etc., while their staining properties are not impaired. On the other hand, this exceptional resistance of the tubercle bacillus to a chemical that almost instantly destroys and completely dissolves all other microbes, shows that there is little hope of influencing these bacilli in the body by therapeutic means; the only hope is in preventing their invasion of the body. The secret of control is in prophylaxis.

101. **Visible Peristalsis of the Stomach.**—Laache reports three cases with an illustration of one in which the intermittent stiffening and protrusion of the stomach were so violent that they could be readily watched. Such a phenomenon indicates stenosis of the pylorus, and he thinks it should be accepted as an indication for immediate gastroenterostomy. This gave good results in two of the cases and Buchholz has reported similar cases.

102. **The Stomach Mucosa in Pernicious Anemia.**—Talma reports the case of a farmer of 28 who succumbed to pernicious anemia after symptoms for eight years. The findings in the stomach indicated a reactive secondary inflammation, probably the result of poisons generated in the intestines. Talma does not regard this stomach disturbance as primary.

103. **Gastric Achylia with Anemia.**—Faber states that out of 125 cases of chronic gastric achylia 12 of the patients presented progressive pernicious anemia. Besides this group there were a number of young women with gastric achylia accompanying anemia which persisted for years uninfluenced by therapeutics. In one case iron was given for three years with only slight transient benefit. He regards this as a special form of anemia plus achylia distinguished by its protracted course and resistance to therapeutic measures. The blood findings are different from those in pernicious anemia; in the latter, the anemia seems to be due to the destruction of the blood. In the group in question the anemia was of the same type as in chlorosis and in secondary anemia from cancer, hemorrhage and the like.

104. **Universal Asthenia.**—Stiller ascribes uniformly to the "morbus asthenicus" what has hitherto been regarded separately as the "anatomic predisposition to tuberculosis," wandering kidney, gastroptosis, nervous dyspepsia, etc. All these, he declares, are merely the various manifestations of the constitutional asthenia which is not a clinical curiosity, but is encountered on every hand. Neurasthenia is an integral element of this asthenia and the latter provides the most favorable soil for certain other affections. Most striking is its genetic connection with pulmonary tuberculosis. Not every asthenic becomes tuberculous, but nearly every tuberculous patient bears not only all or most of the features of the universal asthenia, but also its most special stigma, the floating tenth rib. The dyspepsia of the tuberculous is merely the nervous dyspepsia peculiar to the asthenia. Chlorosis and gastric ulcer show a predilection for "asthenics," as also orthostatic albuminuria and a certain form of mitral stenosis which he has encountered in young women and girls. On the other hand, asthenia seems to be antagonistic to certain other affections, including typhoid, obesity, gout, chronic rheumatism, nephritis and certain heart and vascular affections. These are only rarely encountered in this congenital asthenia. The latter is the most frequent and most predominant of all constitutional affections, and represents the most universal morbid predisposition. It is not restricted to a single organ, but involves all the organs in the body. It is distinguished above all others, besides, by the fact that it has its own "habitus" and its own stigma, and these anatomic signs reveal in the child the predisposition to certain diseases, and this warning permits prophylactic constitutional preventive therapy.

107. **Arteriosclerosis.**—Huchard has investigated the causes of the arteriosclerosis in 2,680 out of 15,000 cases personally observed, and lists them according to their relative frequency and importance as gout, uricemia, the food, syphilis, tobacco poisoning, worry, mental overexertion and alcohol. He reiterates that the abuse of meat in the diet is a powerful and frequent cause of arteriosclerosis as it fills the body with poisons which have an elective action on the arteries, causing contraction, with consequent hypertension. This intoxication is early revealed by a very important symptom which he calls toxic alimentary dyspnea. It rapidly subsides when the ordinary diet is changed to milk and vegetables, which is the basis of the treatment. The mere restriction of meat in the diet puts an end to the disturbances, confirming the theory that this dyspnea, formerly called cardial or aortic dyspnea, is in reality due to the food.

109. **Flatulency.**—Besides dietetic measures and exercise, Schwartz ascribes great importance to massage of the abdomen in treatment of habitual flatulence—energetic massage with rather long sittings—attributing the benefit to the stimulation of the venous circulation. Purgatives should be used only in emergencies. Charcoal and ethereal oils sometimes benefit, although this is not the rule. With a tendency to flatulence there are generally signs of interference with the abdominal circulation, some enlargement of the liver or signs of beginning arteriosclerosis, which explain the benefit from massage of the abdomen. Cardiovascular affections also induce a tendency to flatulence from this same cause. It is also liable to occur with cirrhosis of the liver before the stage of ascites is reached. A sedentary occupation and lack of exercise are important factors in inducing sluggishness in the abdominal venous circulation with its consequent defective absorption of gases and resulting flatulency. The cardiovascular system should be carefully examined as the first step in treatment or the measures advised for the flatulency are liable to overstrain a weakened heart.

110. **Serodiagnosis of Syphilis.**—Grosser reviews the literature and his own experience with 300 cases, his conclusion being that the Wassermann reaction must not be rated too highly as a guide for treatment, but that positive findings are important in diagnosis. A persisting positive reaction, notwithstanding vigorous specific treatment, raises the question whether the infection in these cases is peculiarly resistant to mercury. The reaction is tenaciously positive in hard drinkers, and the manifestations of the syphilis in such individuals are also peculiarly rebellious to specific treatment. A positive reaction during a latent phase of syphilis generally justifies a new course of treatment and a negative reaction suggests frequent repetition of the test for a decisive conclusion. He reiterates that the nature of the reaction is still a mystery, but it is evident that it is not strictly specific.

111. **Isolated Permanent Contraction of the Vessels as a Morbid Entity.**—Pal declares that a stable contraction of the vessels with consequent hypertrophy of the heart may occur not only as a secondary phenomenon, but as an independent morbid condition. When the arterial pressure becomes high and stays high for a few hours or days, but then subsides to normal, the high tension or "pressory vascular crisis," as he calls this condition, resembles in every respect the acute high tension induced in experiments on animals by direct stimulation of the nerves or by the action of some toxic substance. Frequently recurring increased pressure may in time induce a permanently high tension. This condition of permanent high pressure may be a secondary symptom with parenchymatous nephritis, secondary contracted kidney and atherosclerosis. But in many other cases it may be the primary and basal affection, especially in certain cases suggesting atherosclerosis and in true contracted kidney. This group deserves study as a morbid entity, both from the standpoint of etiology and pathogenesis. Huchard calls this condition of high pressure and consequent hypertrophy of the heart the "stage of presclerosis," and von Basch styles it "angiosclerosis." Chronic nephritis and arteriosclerosis are generally, but not invariably, accompanied by this increased pressure so that the connection between them and the high pressure is still a problem. Pal makes a point of systematically recording the arterial pressure in every case of nephritis and comparing these records with the post-mortem findings. The maximal pressure cannot serve as a basis for estimation of the condition, only the basal pressure. There is no direct connection between the degree of pressure and the nature or intensity of the kidney process. The figures are highest with contracted kidney, but these findings are unable to differentiate a true from a secondary contracted kidney. A permanent high pressure is much rarer with arteriosclerosis than generally assumed. Very high pressure is observed at times, but this represents merely a vascular crisis which subsides sooner or later. Albuminuria may be encountered during or following it, but this may indicate merely insufficiency of the right heart, venous stasis, in consequence of the high pressure. Autopsy in a number of such cases suggesting apparently "arteriosclerotic kidney," revealed merely congestion, but no other changes in the kidney, although the arterioscle-

sis and the hypertrophy of the heart were pronounced. Such cases confirm the assumption that the kidney is not responsible for the high arterial pressure, but that some other cause must be sought. In other cases sclerosis of the coronary arteries was the only manifestation of the arteriosclerosis which had induced permanent high tension and extreme dilatation of the heart, especially of the left ventricle. In other cases slight atherosclerosis of the aorta and brain vessels was accompanied by extremely high arterial pressure, and yet the kidneys and their vessels proved to be intact, even under the microscope. In arteriosclerosis slight increased pressure has been the rule in his experience, but even pronounced low pressures have been encountered. All the data presented indicate that arteriosclerosis develops under various conditions. It may be localized or diffuse, but there is nothing to sustain the assumption that it necessarily depends on the contraction or relaxed condition of the vessels. In a case cited in detail, a woman of 42, with permanent high pressure and much hypertrophy of the heart, with signs of mitral insufficiency, developed albuminuria and headache ascribed to the arterial stasis in the brain, the whole syndrome suggesting impending acute uremia, but nothing could be discovered in the vessels at autopsy to explain the high arterial pressure which had persisted during the year and a half the patient was under observation. The kidney was intact except for stasis congestion, and the increased pressure with the consequent hypertrophy of the heart and insufficiency of the right heart must have been the result merely of contraction of the peripheral vessels. This excessive contraction may have been the result of addiction to alcohol or the effect of an adenoma found in one suprarenal. The case is instructive as showing that extremely high arterial pressure may exist in the absence of morbid changes in the kidneys and of an anatomic substratum in the vessels themselves.

Therapeutische Monatshefte, Berlin

September, XXIII, No. 9, pp. 463-518

113 *Mammary Tumors. (Tumoren der Brustdrüse und ihre Chirurgische Behandlung.) P. Bockenheimer.
114 Coryza in Infants and its Complications. (Der Schnupfen [illegible]
115 *A [illegible] ipply of Quinin, Mercury, [illegible] Future. (Die Rolle der [illegible] gem Preise erhältlichen [illegible] einiger Krankheiten.) B. Galli-Valerio.
116 Treatment of Granulating Wounds with Scarlet-Red Salve. (Behandlung granulierender Wundflächen mit Scharlachrotsalbe.) G. Morawetz.
117 Utilization of Pawlow Fistula into the Intestine for Pharmacologic Research Purposes. (Die permanente seitliche Darmfistel eine Methode zur Untersuchung des Schicksals und der Wirkung von Arzneimitteln im Magen-Darmkanal.) A. Bickel.

113. **Tumors of the Breast.**—Bockenheimer discusses various benign and malignant tumors, remarking that over 80 per cent. of mammary tumors are malignant according to the records to date. He reviews his experience and states that radiotherapy, fulguration and injections of certain fluids may cause the tumor to subside, but it continues its growth in the depths. Recent statistics have shown fully 30 per cent. permanently cured three years after excision. The main point is an early diagnosis and prompt excision.

115. **Free Drugs in Prophylaxis of Disease.**—Galli-Valerio emphasizes the great forward stride that would be realized in prophylaxis if all with malaria, syphilis, cretinism and typhoid could receive free an ample supply of the drugs and disinfectants required to cure and prevent infection of others.

Therapie der Gegenwart, Berlin

September. L, No. 9, pp. 409-456

118 *Symptomatology and Puncture of Pericardial Effusion. (Zur Symptomatologie und Punktion der Exsudate des Herzbeutels.) W. Zinn.
119 *Action of Saliva c [illegible] Mundspeichels [illegible]
120 *Present Status o. [illegible] gegenwärtige S [illegible] L. Jacobsohn.
121 *The Kitchen in the Modern Sanatorium. (Die Küche in der modernen Heilanstalt.) W. Sternberg.

118. **Pericarditis with Effusion.**—Zinn pleads for more general adoption of puncture in pericarditis with effusion as a simple and reliable measure in general practice. He reviews the symptoms of pericarditis as he encountered them in over 130 cases. About 1,000 cases of acute articular rheumatism have been treated in the Bethanien Hospital at Berlin, and pericarditis was observed in 10 per cent. and endocarditis in 25 per cent. In the 100 cases of rheumatic pericarditis friction sounds were noted in 50 per cent.; in 14 there was a slight effusion besides the friction and in 35 per cent. the effusion was moderate to excessive. In pericarditis of other origin there were friction sounds or no symptoms in about two-thirds and an effusion was evident in less than one-third. In 47 cases with very much effusion the symptoms did not compel intervention in 16, but puncture was required in 25. In some of the cases the pericarditis was the first sign of the rheumatic infection and typhoid was suspected at first. All the patients in this category recovered. In case of a large effusion neighboring organs may be interfered with; in one case there was permanent recurrent paralysis, in another acute mediastinitis. Other cases show that pericarditis without effusion may occur as a primary process. Roentgen examination is sometimes useful. When puncture is indicated by threatening symptoms or by lack of any tendency to absorption of a large effusion, the best point to introduce the trocar is where the largest mass of the effusion is found and that is the fifth or sixth interspace on the left, outside of the nipple line, where there is dulness, but no friction sound nor pulsation. He makes an incision in the skin under local anesthesia, after which the puncture is made rapidly and easily and the effusion is siphoned out without aspiration. He has thus withdrawn from 80 to 300 or once even 700 c.c., but states that sometimes withdrawal of a small amount is enough to start the resorption of the rest. In case of much dilatation of the left ventricle, or adhesion of the pleural or pericardial sheets, it may be advisable to make the puncture on the right side of the sternum.

119. **The Action of the Saliva on the Secretion of Gastric Juice.**—Fricker reports a series of researches which he undertook in his own person, the results confirming the assumption that the act of chewing promotes the secretion of gastric juice, as also the arrival in the stomach of saliva, which seems to have a specific stimulating influence on the secretion of gastric juice.

120. **Brain Tumors.**—Jacobsohn gives the details of 10 cases of tumor in the brain, discussing the symptomatology in general.

121. **The Kitchen in the Modern Sanatorium.**—Sternberg discusses the arrangements by which the food can be served palatable, hot and freshly prepared, not warmed up, and he thinks that the sanatoriums can learn from hotels in this respect. He insists that fine grinding is often more important than the chemical constituents of the food. Large mortars and extremely fine sieves are important factors in the preparation of easily digestible foods. The aim should be to make a dish that melts in the mouth like fine grades of candy. The sanatorium kitchen should be provided with apparatus similar to that used in high art cooking and confectionery. His arguments to sustain these assertions were mentioned in THE JOURNAL, April 10, 1909, page 1219, and July 18, page 266.

Zentralblatt für Chirurgie, Leipsic

September 4, XXXVI, No. 36, pp. 1225-1256

122 *Cure of Prolapse of Rectum by Systematic Tamponing of Retrorectal Space. P. Sick.
123 *An Adjustable Drill for Extension of Bones. (Ein zerlegbarer Bohrer zur Extension am Knochen.) E. Becker.

122. **Treatment of Prolapse of the Rectum by Tamponing.**—Sick expatiates on the advantages of tamponing in treatment of prolapse of the rectum. An incision is made between the tip of the coccyx and the circular sphincter fibers, through the superficial fascia into the loose connective tissue behind the rectum. There are no vessels, muscles or nerves to be injured at this point. The rectum is then detached up to the promontory, as for resection, tamponed with a little gauze, and a strip of medicated gauze, folded four or six times is introduced. The incision 2 or 4 cm. long is closed with plaster or collodion. The tampon is removed as after a nephropexy in one or two weeks, but not until after the second or third week

should the patient be allowed to defecate seated. This technic is especially applicable for children, and he thinks it is much superior to the Ekehorn technic, which he declares is neither simple, harmless nor promising of permanent results.

123. **Drill for Extension of the Bone.**—Becker has been trying to perfect the technic of applying extension directly to the bone itself. He inserts a drill from both sides, these meet and lock in the center, while the outer ends fit into plates from which the weights are suspended. The drill is worked with an electric motor.

Zentralblatt für Gynäkologie, Leipsic

September 4, XXXIII, No. 36, pp. 1249-1280

124 *Conservative Operations for Myoma. W. Rubeska.
125 Influence of Delivery on the Levator Ani Muscles and the Operation for Prolapse. L. Heidenhain.
126 Familial Occurrence of Typical Menstrual Flow during Pregnancy. E. Vogt.
127 Operative Treatment of Complicated Retroflexion of the Uterus. (Pfannenstiel'scher Schnitt mit Verkürzung der runden Mutterbänder nach Alexander-Adams.) P. Brose.
128 Extrauterine Twin Pregnancy. (Zwillingsschwangerschaft mit heterotopem Sitz der Früchte.) A. Leo.

124. **Conservative Myoma Operations.**—Rubeska performed a conservative operation in 9 out of 91 abdominal operations since 1896. Only 1 of the women has not borne 1 or more children since without mishap. In 3 cases the myoma grew again compelling hysterectomy, but each woman had borne a healthy child in the interim of 7 or 5 years.

Gazzetta degli Ospedali e delle Cliniche, Milan

August 31, XXX, No. 104, pp. 1097-1104

129 *The Temperature Equivalents in Malaria. (Gli equivalenti termici dell'infezione malarica.) G. Trincas.

September 2, No. 105, pp. 1105-1112

130 *Dosage of Quinin in Malaria. (La somministrazione del chinino nella malaria.) G. Palumbo.

September 5, No. 106, pp. 1113-1128

131 Li [illegible] the Parathyroids. (Metabolismo del [illegible] Preteso antagonismo fra tiroide e [illegible]

129. **Apyretic Malaria.**—Trincas declares that malaria should be defined as an infection which is frequently but not necessarily always accompanied by fever. There may be other phenomena taking the place of the fever, and these thermic equivalents, as he calls them, may be exceptionally serious. In the last year or so cases have been reported in which apyretic malaria induced paroxysms of kidney colic or of facial paralysis, aphasia or hemiplegia; in one case attacks of sciatic neuralgia occurred until the febrile paroxysms developed, after which the sciatica did not recur. In these apyretic cases of malaria differentiation is possible only by microscopic examination of the blood or the prompt cure under quinin.

130. **Administration of Quinin.**—Palumbo thinks that the prevailing methods of giving quinin fail to answer their purpose quite so fully as desired; the aim should be to have the blood saturated with the drug just at the time the attack is expected. He accomplishes this by giving the usual dose of 1 gm. fractioned in five doses, the last being taken just two hours before the anticipated attack. The same amount is taken on the day between the attacks, and after they have subsided he continues with smaller amounts for a few days. In 5 of his 120 cases the malaria was of the apyretic form, the attacks taking the form of trigeminal or intercostal neuralgia, recurring according to the tertian type, and all cured by two applications of quinin according to the above rule. When a large dose is given at one time about half of it is promptly eliminated, leaving only the other half to combat the parasites. A much smaller proportion is eliminated early, he says, when given in fractioned doses.

Policlinico, Rome

September, XVI, Surgical Section, No. 9, pp. 381-428

132 Radical Treatment of Chronic Laryngeal Stenosis. (Considerazioni e contributi per la cura radicale delle stenosi croniche laringee.) T. Della Vedova.
133 Three Cases of Osteocarcinoma of Traumatic Origin. G. Gallina.
134 *Treatment of Leg Ulcers by Circular Incision Above the Ulcer. (Cura delle ulcere varicose col metodo della sezione cutanea circolare della gamba alla Mariani.) S. V. Crainz.

134. **Treatment of Leg Ulcers by Circular Incision Above.**—Crainz here reports the application of this method in 14 cases before 1908 with the ultimate outcome. In 3 cases the operation was bilateral and in 6 cases the saphenous vein was also resected. There does not seem to be any danger of thrombosis with the circular incision technic, and all of the 11 patients with the simple incision have been entirely cured to date with one exception, in which there was only improvement. There was also one failure in the 6 cases in which this technic was supplemented by resection of the vein trunk. He regards these results as a brilliant success, particularly as the ulceration in many of the cases had been of several years' standing, the lesions were extensive and deep and the patients were working people, compelled to use the leg constantly. Even in the 2 cases reported as failures, although the ulcer still persists, it has been reduced to an insignificant lesion almost entirely free from discharge. The circular incision through the skin and subcutaneous tissue encircles the leg just below the head of the peroneus.

Riforma Medica, Naples

September, 6, XXV, No. 36, pp. 981-1008

135 *Diagnosis of Pseudoascites from Rupture of Ovarian Cysts. A. Ott.
136 Periappendiceal Inflammatory Swelling Simulating Neoplasm. (Tumore infiammatorio pseudo-neoplastico peri-appendicolare.) F. Gangitano. Commenced in No. 35.

135. **Differentiation of Pseudoascites from Rupture of Ovarian Cyst.**—Ott describes a case which emphasizes anew the importance of cooperation between the internist and the surgeon for interpretation of phenomena observed even when they are assumed to pertain exclusively to the domain of internal medicine. In a woman of 47 with supposed ascites after three years of vague lumbar pains, constipation, irregular menstruation and gradual increase in size of the abdomen, the discovery of a tumor in the right flank gave the clew to the diagnosis, especially as exploratory puncture brought a mucous rather than an ascitic fluid. At the laparotomy the abdomen was found filled with small cubes of a jelly-like substance and multiple cysts were found in the ovaries and invading the peritoneum. When the cyst ruptures insidiously and the contents escape gradually into the peritoneal cavity, as in this case, there may be no symptoms to call attention to the rupture, and the fluid obtained by puncture may not be characteristic either of a cyst or of ascites. However, if the fluid obtained by puncture contains an unusually large proportion of granulated corpuscles, a cystic origin is probable. When the rupture occurs suddenly, the symptoms generally differentiate the disturbance at once.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

A BOOK OF QUATRAINS, Original and Translated. By Frederic Rowland Marvin. Cloth. Pp. 101. Price, $1. Boston: Sherman, French & Co., 1909.

AUSTRALASIAN MEDICAL CONGRESS. TRANSACTIONS OF THE EIGHTH SESSION, Held in Melbourne, Victoria, October, 1908. Vols. I, II, and III. Paper.

DOCTOR RAST. By James Oppenheim, Author of "Monday Morning and Other Poems." Cloth. Pp. 321. Price, $1.50. New York: Sturgis & Walton Co., 1909.

A TEXT-BOOK OF OBSTETRICS. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania. Sixth Edition. Cloth. Pp. 953, with 847 illustrations. Price, $5. Philadelphia: W. B. Saunders Co., 1909.

THE PRINCIPLES OF HYGIENE. By D. H. Bergey, A.M., M.D., Assistant Professor of Bacteriology, University of Pennsylvania. Third Edition. Cloth. Pp. 542, with illustrations. Price, $3. Philadelphia: W. B. Saunders Co., 1909.

SURGICAL DIAGNOSIS. By Edward Martin, M.D., Professor of Clinical Surgery in the University of Pennsylvania. Cloth. Pp. 737, with 445 engravings and 18 plates in colors and monochrome. Price, $5.50. Philadelphia: Lea & Febiger, 1909.

MODERN MATERIA MEDI [illegible] A. Stevens, A.M., M.D., Professor of [illegible] cine, Woman's Medical College of I [illegible] Cloth. Pp. 646. Price, $3.50. Phil. [illegible] 1909.

AN INTRODUCTION TO CHEMICAL ANALYSIS for Students of Medicine, Pharmacy and Dentistry. By Elbert W. Rockwood, M.D., Ph.D., Professor of Chemistry and Toxicology and Head of Department of Chemistry in the University of Iowa. Cloth. Third Edition. Pp. 241, with 20 illustrations. Price, $1.50. Philadelphia: P. Blakiston's Son & Co., 1909.

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Original Articles

ENUCLEATION OF UTERINE MYOMAS; WHY AND WHEN PERFORMED[*]

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PHILADELPHIA

The treatment of fibroids has ever been a mooted question. I can well remember the period when the extrusion of such growths through the long-continued administration of ergot was considered the proper plan of treatment, and the operative measures were principally confined to the reduction of the resistance to the action of the ergot. Not infrequently were seen cases in which the extrusion under this plan was so rapid that the circulation in the growth became affected and necrosis followed. Such a condition was fraught with danger whether a submucous or a subperitoneal growth.

It was not surprising that the futility of medical measures—indeed, their often disastrous effects—should have led to surgery as the means of escape from the discomforts incident to myomatous growths.

The earlier plans of treatment were necessarily confined to growths which were causing symptoms; and it is a well-known fact that the interstitial and subperitoneal rarely produce symptoms of a distressing character until sufficiently large to produce pressure or become visible through distention of the abdomen. The growths of the submucous variety, on the other hand, are very early the cause of discomfort and alarming symptoms from the profuse bleeding and the painful efforts of the uterus to expel the menacing growth.

The natural history of the extrusion of the latter growths was the origin of the ergot treatment, which was followed until the expulsion brought the growth within reach of the surgeon. Unfortunately it was but a very limited number of cases which were found amenable to such treatment, while medical measures were ineffectual or productive of additional danger to the majority.

Our present knowledge assures us that these patients suffered from weight and pressure of the tumors, from the absorption of toxins generated within them, and were endangered by necrotic and degenerative processes incident to their changing nutrition.

It is not surprising, then, that with increasing experience in operative measures within the abdomen measures should be instituted for the removal of the uterus containing these offending growths. The radical procedure was naturally chosen in view of the fact that the cases selected for operation were those in which the symptoms were so pronounced that the condition was no longer endurable. With a reduction of operative mortality, surgery has been resorted to much earlier in the history of the disease, and some have accepted the dictum that the pickled fibroid is the only fibroid to leave unmolested. The advocates of early operation are confronted with the recognition of the fact that early operation must necessarily result in the arrest of all hope of conception in a large number of comparatively young women, for fibroid growths are recognized as occurring in women between 25 and 40 years of age.

It is true that the presence of fibroids increases the tendency to sterility, but the large number of cases of the coexistence of pregnancy and fibromas demonstrates that they do not make sterility absolute.

The study of the specimens removed, showing the enveloping capsule and the ease with which the tumors could be peeled out, make the consideration of the removal of the growths and the preservation of a functionating uterus seem justifiable. The aim of any capital operative procedure is to save life, but the preservation of the function should be considered as next in importance, especially when the function preserved has to do with the propagation of the species.

Not infrequently a woman will place but little value on her ability to bear children—may, indeed, endeavor to avoid the responsibilities of the marital relation—but when she realizes that some operative procedure is followed by premature menopause she awakens to a realization of the fact that the function lost was one she prized beyond every other, and is so disturbed by her loss that the mental faculties become unbalanced.

The premature menopause frequently produces marked nervous and vasomotor disturbances, which destroy all comfort and pleasure in life. The combination of these symptoms with the mental phenomena induced by the knowledge of inability to conceive leads to mental derangement. As it is beyond our possibility to determine in advance the influence such measures will exert in any individual case, it seems the better procedure, whenever possible, to preserve the uterus and remove the growths.

An advantage of this procedure which is not always apparent to the patient in whom there is a recurrence is that, should the worst come and the growths recur, we can then if necessary do a second operation which will not, in the majority of cases, be required until years after the first. On the contrary, should the removal of the pelvic structures as a primary procedure be productive of deleterious effect, there is no plan by which we can replace the organs, and in many instances there is but little reason to hope for improvement.

I will not attempt to occupy the attention of the Section with the details of enucleation further than by remarking that the operation may be either vaginal or abdominal. The former should be employed only when the growths are limited to those which encroach on the uterine cavity or are confined to the lower portion of the uterus, making them readily accessible through a roomy vagina.

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[*] Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

In either the vaginal or abdominal procedure, the aim should be to do as little injury to the organ as possible; consequently the number of incisions into the uterus should be limited. The vascular supply to the growths occurs through the vessels of the capsule; consequently the hemorrhage is at times quite considerable and requires the employment of measures for its control. Some operators advocate the application of a rubber ligature about the cervix during the process of enucleation, but I have never found this necessary, as the bleeding can be controlled by pressure forceps direct to the bleeding vessels. Large vessels or sinuses should be ligated by passing a needle armed with a catgut ligature beneath the vessel. The wound or wounds in the uterus should be closed with interrupted catgut sutures and then with a second or superimposed row of sutures to bring the peritoneum in contact over the line of the wound. I formerly closed such wounds with several rows of continued catgut suture, but not infrequently the loose capsular connective tissue is of such low vitality that occasionally all the tissue inclosed in the line of suture will become so devitalized that it will slough out.

In reviewing my own work done to retain the uterus, I find about thirty-seven cases in which fibroids have been enucleated through an abdominal incision, and five cases in which the operation has been accomplished *per vaginam*. A large number of cases of myomectomy either through the vagina or by abdominal incision are not included, but only those in which the growths have been enucleated. In five of the abdominal cases, the operation was performed during gestation, and in all the patient continued to carry the offspring until the completion of pregnancy. In none of the cases has there been any trouble during labor. In several of the patients the convalescence has been stormy or prolonged, and in two death resulted. In one patient, a single woman, aged 33, thirteen growths were enucleated. The wounds were closed with several layers of continuous chromicized catgut suture, and finally the sutured surface secured to the lower angle of the abdominal wound. Her convalescence was disturbed. The abdominal wound became infected, and finally there was discharged through it a slough which contained the entire suture material employed in the fundus of the uterus. After a prolonged period the woman recovered, subsequently was married and gave birth in successive labors to two children. Her first labor was unattended by anything abnormal. Following the completion of the second, she went into collapse and died with what was supposed to be a rupture of the uterus and internal hemorrhage.

The growths have varied from one to twenty in number, and from the size of a pea to that of a child's head. The smaller, of course, were multiple. In eight cases the disease of the uterus was complicated by disease of the ovaries or tubes, requiring operation on one or both tubes. In one a hemorrhage occurred which required a vaginal incision some ten days later to evacuate the accumulation. In three cases it has been necessary to reoperate, and in one of them a second time. The latter operation was not for fibroids, however, but for appendicitis, and the opportunity was taken to overcome a ventral hernia. In one of these patients reoperated on, from whom two fibroids were enucleated at the first operation and no vestige of others recognized, at the second operation, five years later, twenty were enucleated and both ovaries removed for diseased conditions. One patient, from whom twenty growths, large and small, were removed eight years ago, now has a large collection, but as the menopause has occurred and they are not producing symptoms I have advised delay.

My analysis of my own cases and the study of the literature has caused me to regard the removal of fibroid growths by enucleation as indicated in the following conditions:

1. When the growths are few in number and the structure of the uterus is but little involved. Of course, the fibroids may be numerous but situated so near the surface as to permit their removal with but little injury to the general structure, but the large number indicates a tendency to fibroid degeneration which presages early redevelopment. Where a number of growths of considerable size are present, the structure of the uterus is so spread out and will be so injured as to render an attempt to save the organ attended with danger during the subsequent convalescence and an element of danger in the event of pregnancy and labor.

2. When the growths are readily accessible through the vagina or cervical canal. A growth within the uterus, either a sessile submucous or an interstitial, is readily attacked. Not infrequently, the canal may be partially dilated and the dilatation can be completed by the introduction of tents, or the cervix may be split bilaterally until the tumor is exposed or rendered accessible. The enucleation completed, the cavity may be packed with gauze and the split cervix closed much as is done in an ordinary trachelorrhaphy. The vaginal operations are attended with less constitutional disturbances than in the removal by an abdominal incision.

3. When the woman, whether unmarried or married, is under forty years of age, and particularly when she is childless or has but one or two children. The removal of the growths at an earlier period can not be considered as rendering certain the escape of the patient from recurrence, for one of my patients who had two fibroids enucleated when she was 33 years old five years later had twenty removed. The age of forty, however, is one at which the individual suffering from such growths begins to undergo retrogressive degenerations and when the patient has not previously been fertile pregnancy is much less likely to occur.

4. When the tubes and ovaries are free from complicating conditions. The existence of tubal or ovarian disease of sufficient gravity (as hydrosalpinx, or pyosalpinx, or ovarian hematoma), to render the probability of conception remote or to necessitate the removal of tubes and ovaries to insure restoration of health, should also be an indication for the removal of the fibromyomatous uterus. While it is true that in the majority of cases the tumors decrease and become quiescent after the menopause, yet they sufficiently often undergo necrosis and other degenerative changes to justify the removal of the uterus.

I have endeavored to indicate the conditions under which the enucleation of myomatous growths may be considered advisable, but it would seem even more important to enumerate some of the conditions in which experience has demonstrated that such a procedure would be inadvisable or even dangerous. On general principles, I would condemn the operation (1) when the woman affected has reached the age of forty, as with the changing conditions incident to the climacteric, the tendency to degenerative processes is increased. The woman who reaches this period unmarried or childless is unlikely to be fertile and the tendency to sterility will be augmented by the disease and the operative procedure required for its relief. I consider it inadvisable (2) when the uterus is spread out by the growth or growths to such a degree that the reconstruction of a functionating uterus will not be feasible, and (3) when the tumors are so distributed in the structure of the uterus that the circulation will be greatly affected in the necessary suturing to replace the disordered structures.

The danger to the patient is so great in both of the classes indicated in 2 and 3 as to render attempts to preserve the organ not only inadvisable but unjustifiable. The patient is endangered during the convalescence from necrosis and infection of the structures of low vitality, from accumulation of blood in the torn tissues, and in some cases from extensive sloughing of the devitalized structures. Should she survive the operative danger and subsequently become pregnant, she is still in danger from uterine inertia or from rupture, as evidently occurred in one of my cases.

Enucleation of growths may occasionally be of service in promoting the procedure of removal of the uterus. Its employment reduces the bulk of the mass, permitting more ready access to the tissues of the pelvis. I have made use of it, as have others in many instances, to lessen the bulk and afford more ready access to the deeper structures of the pelvis. But two cases recur to me in which it was of especial advantage. The first was that of a woman who had been subjected to an abdominal incision and the wound closed because the conditions seemed too formidable to justify further procedure. When I opened the abdomen the pelvis was so packed with the growths that the vessels were inaccessible in any direction; but the enucleation of a large number of growths rendered the shell containing the blood-vessels readily accessible and the operation easily completed.

Recently I operated on a woman past the climacteric who had carried a large tumor over eighteen years. Of late she had been suffering from abdominal pain and elevated temperature. When the tumor was exposed it was found firmly fixed, filling the large pelvis, and with the intestines so adherent to its posterior surface as apparently to defy dissection. As progress seemed unfavorable in front, behind or on either side I determined to bisect the mass. Incision disclosed that the uterine wall, nearly an inch in thickness, covered a large necrotic fibroid. This was turned out, the inner surface of the uterus curetted, the bleeding vessels ligated and the organ closed without disturbing the adherent intestines. The convalescence was unusually rapid and satisfactory.

1703 Walnut Street.

ABSTRACT OF DISCUSSION

Dr. H. J. Boldt, New York City: I desire to endorse Dr. Montgomery's position as to the limited indication for myomectomy; in other words, myomectomy should not be done when the uterine structure has been greatly encroached on by a large number of myomatous nodules within the organ. An inflammatory condition of the ovaries and tubes does not mean that the ovaries should be removed. With malignant change taking place in the neoplasm, particularly in patients over 40 years of age, I believe entire extirpation of the uterus is indicated rather than a supravaginal extirpation of the uterus. In patients below or about that period it is more desirable to retain the cervix and the adnexa for obvious reasons, unless there is a question of malignancy. In appendicular inflammation, the inflammation is not necessarily present only in those cases in which it is seen macroscopically; in the majority of cases in which the appendix has been removed it has been demonstrated microscopically that there was present an inflammatory condition of the appendix.

Dr. Howard A. Kelly, Baltimore: I agree with Dr. Montgomery that myomectomy is the operation *par excellence.* When a patient comes to us our first thought is: Can I take out these tumors? Not: Can I take out the uterus? And leaving out the age limit in young women, in the absence of complications I always try to do a myomectomy. But a myomectomy is undoubtedly more dangerous than hysterectomy. I have had over 200 cases of myomectomy and the percentage of mortality is large. The operation is dangerous on account of the possibility of serious secondary hemorrhage and of infection, particularly of the former.

I have only perhaps in the last fifty or sixty cases operated by methods in which I feel secure against this accident. They consist in limiting myself to the cases in which there are not so many tumors. I expose the uterus, tie with a little gauze strip, and bisect the tumor. It is of great advantage to use a serrated instrument. A large vessel supplying the tumor should be clamped as an ordinary bleeding vessel. If after having taken off the pressure and having clamped these vessels, there is still free hemorrhage, they should be tied very carefully as described by Dr. Montgomery. The method of suture is important. The vessels should be caught and sewn together with a strong continuous catgut suture. I sometimes make the figure-of-eight suture which binds the sutures between where they tie and loop. It is the best suture I know of in loose flaccid tissue to stop hemorrhage. Most important of all and that which has helped me with my myomectomies and the only thing by which I can feel safe is to close up the wound with a little bit of a drain. It is not enough to interfere with the prompt healing and when I pull it out after two or three days I always know whether there has been hemorrhage. There is always a surprising amount of leakage; if there is too much the wound is opened up. The little telltale drain has been invaluable in enabling me to feel comfortable about the patient. It can be removed on about the third day.

Dr. E. E. Montgomery, Philadelphia: It is not in the simple case, the case in which the fibroid is small and the operation slight, that death is likely to take place. I would not for a moment wish to be understood as advocating operation in every case in which fibroid tumor is recognized; but I do say that such cases should be kept carefully under observation; that the growth of the tumor should indicate early operation, principally for the purpose of trying to save the patient's functions and her power of propagation. When the tumor has gone beyond this early stage and shows extensive development in the uterus we should resort to operation and safeguard the life of the patient.

Objections to External Splints in Fractures.—H. E. Pearse, in *Kansas City Medical Index-Lancet*, gives the following objections to external splints: 1. It is impossible to see the ends of bone, hence impossible to secure accurate apposition of ends. 2. Breaks are never so transverse as not to slip sidewise on occasion. 3. Portions of fascia and muscle will become misplaced and engage between the ends of bone. 4. The hemorrhage from broken bones does not stop until the parts are packed with a blood clot that must be absorbed and whose presence increases the stiffness and uselessness of the mended member. 5. External splints applied over the parts, separated from the actual broken bone by the muscle, fat and skin, cannot hold the parts in more than indifferent position and then only by exerting undue pressure on the soft parts. 6. Too often one fragment is too short to afford proper bearing for the splint and thus maintain the axis of the bone in proper position. 7. Every factor of the external splint process used to maintain apposition—splints, bandages, pressure, extension and rest—all these tell against nutrition. 8. Early motion, which is the panacea for stiffness and loss of function, must be sacrificed to the need for bony apposition.

INSECT CARRIERS OF TYPHOID FEVER *

W. FOREST DUTTON, M.D.
PITTSBURG, PA.

The events brought about by the Spanish-American war marked the beginning of the greatest epoch in the history of preventive medicine in America. The arrest of the growth and propagation of certain mosquitoes—anopheles, culex, and stegomyia—has blazed the way for the greatest achievements of modern times.

FLIES

Insect carriers of disease have not, until a comparatively recent date, received any impressive attention from medical observers. The mosquito was, perhaps, the first insect to receive due attention. Its importance as a host in malaria, yellow fever, and other diseases has been thoroughly established.

The common house-fly (*Musca domestica*), since time immemorial, has been a common nuisance of all countries, civilized and uncivilized. My first observations of the house-fly as a carrier of disease were made in army camps during the Spanish-American war. It is well known that the army camps of this war were veritable hotbeds of typhoid fever. Some outbreaks could be readily traced to the water-supply; in other camps, where the water was free from contamination, the cause of the spread of typhoid was at that time unknown. Other observers (Veeder, Craig, Austen, Stalham, Oldham) have connected the fly with the transmission of typhoid in army camps.

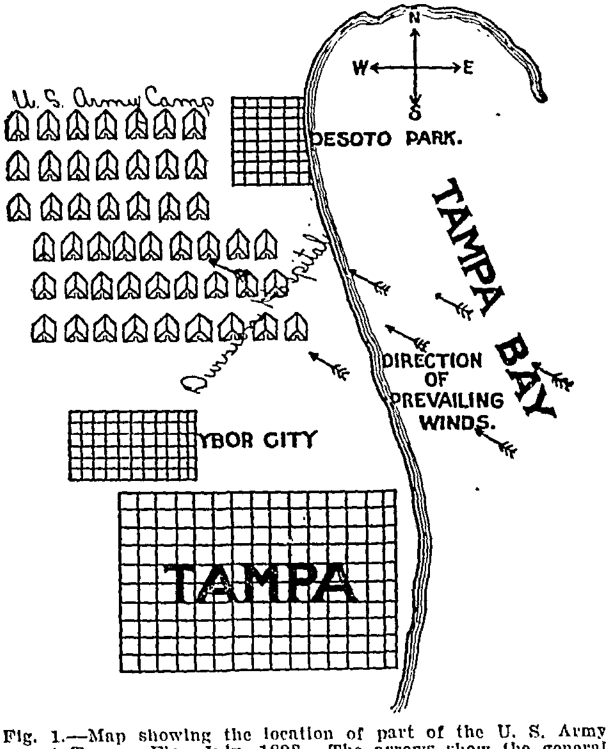

Fig. 1.—Map showing the location of part of the U. S. Army camp at Tampa, Fla., July, 1898. The arrows show the general direction of the prevailing wind and indicate how infected flies were carried from hospital, latrines, etc., to other parts of the camp.

While stationed at Tampa, Fla., in the early summer of 1898, I observed that the larger outbreaks of typhoid took place and spread in the direction of the prevailing wind. I did not fathom this peculiar phenomenon until Sergeant Brady was stricken with typhoid fever at Fernandina, Fla., some months later. He mentioned to me that the lime used about the latrines and garbage dumps was carried by flies to the food which we were using. After investigation, I found that the flies did not only carry lime, infectious matter, and other foreign material, but that they traveled in the direction of the prevailing wind.

Dr. Thomas S. Anderson, of Pittsburg, has recently confirmed and observed the factor of the prevailing wind in the spread of typhoid. In a symposium on typhoid fever before the Allegheny County Medical Society, Pittsburg, Pa., held April 20, 1909, Dr. J. F. Edwards, superintendent of the Bureau of Health, said that with the many open box privy vaults in the densely populated parts of the city the possibility of flies as carriers of disease might be a factor, but that his department had no knowledge that such was the case. Pittsburg until recently had one of the largest typhoid mortality rates of any municipality in the world. Thus, one notes how easy it is to overlook some of the most important factors in the transmission of typhoid.

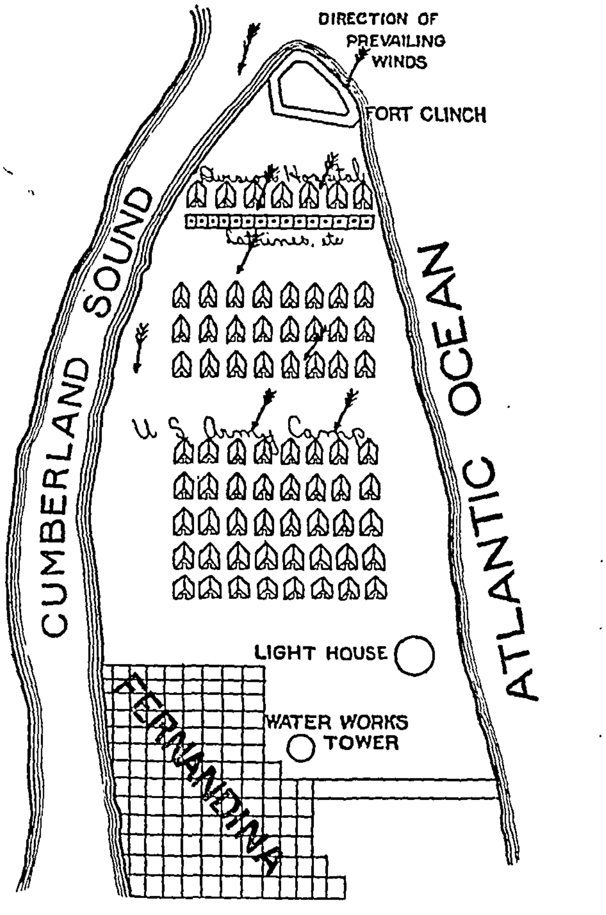

Fig. 2.—Map showing the location of the U. S. Army camp at Fernandina, Fla., 1898. The arrows show the directions of the prevailing winds and indicate the direction flies were carried from infected sources to different parts of the camp.

According to the investigations of Dr. Hamer, of the London County Council, the most productive of all factors in the fly genesis are accumulations of horse manure, but collections of dust and other refuse act as breeding-grounds. He states further that children, dirty walls and ceilings, particles of food on the floor and in sinks, are influential in attracting flies.

It has been shown that flies may carry typhoid fever germs in a living condition for over two weeks. Experiments have shown that typhoid bacilli may pass through the intestinal tract of the fly and remain alive. The germ is not so readily carried in the body of the fly as on its hairy feet. The urinals, linen, and even the mouth and rectum, as seen in many army camps, are places most likely for the fly to frequent, and thus pick up germs and become a most potent medium for the dissemination of the disease.

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The true or common house-fly (*Musca domestica*) commonly lays its eggs on horse manure (its favorite food), cow manure, human excrement, and decaying animal and vegetable material. Howard has found that in midsummer each female lays 120 eggs, which hatch in eight hours, the larval period lasting five days, making the total time for the development of the generation ten days. This was at the end of June in Washington, D. C. The periods of development vary with the climate, season, and food. In the climate of Washington there is ample time for the development of twelve generations every summer (Howard).

Pomace-flies, or little fruit-flies, are commonly seen about decaying fruit and other decaying vegetation (Howard). The most abundant and widespread species is *Drosophila ampelophila,* the vine-loving pomace-fly (Kellogg). These flies are frequently found feeding on table fruits such as pears, peaches, plums, grapes, and apples. Fruit furnishes both food and a place for oviposition for these insects. Kellogg has observed: "The larvæ or maggots hatch in three to five days, live in the fruit four days, and lie in the pupal stage three to five days, so that the life cycle is gone through in less than two weeks."

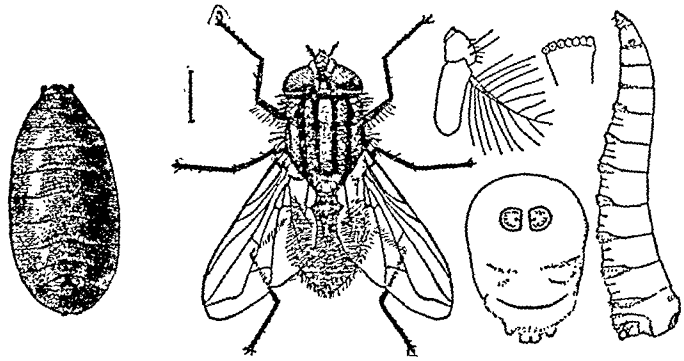

Fig. 3.—Common house fly (*Musca domestica*) : Puparium at left; adult next; larva and enlarged parts at right. All enlarged. From circular 71 (by L. O. Howard), Bureau of Entomology, U. S. Department of Agriculture.

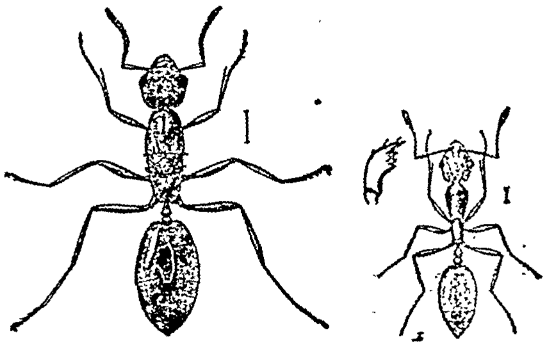

Fig. 4.—The red ant (*Monomorium pharaonis*) : A, female; b, worker. Enlarged. From circular 34 (by Riley), Bureau of Entomology, U. S. Department of Agriculture.

It is difficult to rate the importance of the pomace-fly as a carrier of disease. Howard has recently shown that these flies are attracted to dangerously foul substances, and that they may be responsible for the spread of certain diseases. Their method of dissemination of disease is much the same as that of the house-fly, with this exception that pomace-flies often breed in the food used by man, and their significance as carriers of typhoid bacilli can not be overestimated. In Pittsburg, September, 1908, I secured cultures from pomace-flies found in a garbage-can in which excreta had been thrown, and within one hundred feet of a restaurant where hundreds of people dined daily.

HOUSE-ANTS

The most important species of ants found in houses is the little red ant (*Monomorium pharaonis L.*), the little black ant (*Mouomorium minntum Mayr*), and the pavement ant, of the Atlantic seaboard (*Tetramorium cæspitum L.*).

Perhaps the little red ant is the most thoroughly domesticated. It passes its entire existence in or about houses, having its nest in the walls or beneath the flooring, or in other places favorable to rapid ingress or egress near articles of food.

The habits and life histories of these several species of ants are much the same. The specimens usually seen in houses are all workers. The colony itself contains the larger wingless females, and at the proper season the winged males and females. During the greater part of the year the colony consists mostly of workers with one or more perfect wingless females.

In squalid homes, where the garbage-pail is used for the deposit of excreta, etc., it can be readily understood how these insects may become carriers of typhoid infection.

COCKROACHES

The cockroach is among the commonest and most offensive of insects which frequent human habitations (Marlatt). The American roach (*Periplaneta Americana*) is the commonest of domestic species found in America. The house roach is particularly abundant in pantries, kitchens, store-rooms, and especially in the neighborhood of well-heated apartments. It conceals itself during the day behind baseboards, refrigerators, boxes, furniture, in damp or moist cracks about sinks, and wherever protection from light is afforded. Unless routed out, or suddenly uncovered from their hiding-places, roaches are rarely seen. If discovered, they make off rapidly for other secure hiding-places. Domestic roaches congregate in large numbers at night and feed on almost any kind of food, dead animal matter, cereal products, leather, cloth, and such other materials as may suit their fancy for food or destruction. It is said that roaches are occasionally cannibalistic. They seem to be natural enemies of the bedbug, but as they do not usually frequent the places inhabitated by the bedbug they are not valuable as exterminators of that insect. Roaches travel from place to place, wherever their instinct may lead, to fertile fields for foraging.

Marlatt says:

> The roach, in its different stages from egg to adult, shows comparatively little variation in appearance or habits. The eggs, instead of being deported separately, as with most insects, are brought together within the abdomen of the mother into a hard, horny pod or capsule which often nearly fills the body of the parent. *On hatching, it is said,* the young are often kept together by the parent and brooded over and cared for; at least, a colony of young will usually be found associated with one or two older individuals. The common American roach (*Pariplancta americana*) has been carried from egg to the adult state in our insectary. Young hatching July 11

from an egg-case received from Eagle Pass, Texas, reached the adult stage between March 14 and June 12 of the following year, indicating a period of twelve months for development. The rate of growth undoubtedly depends very largely on food and temperature.

The omnivorous habits of the roach make it a prolific source and a ready carrier of disease. Engelmann has observed the relation of the cockroach to the conveyance of typhoid infection. It may carry disease from the source of infection on its body and limbs, or, by excreta, to drinking or other vessels used about the household, or even into the food.

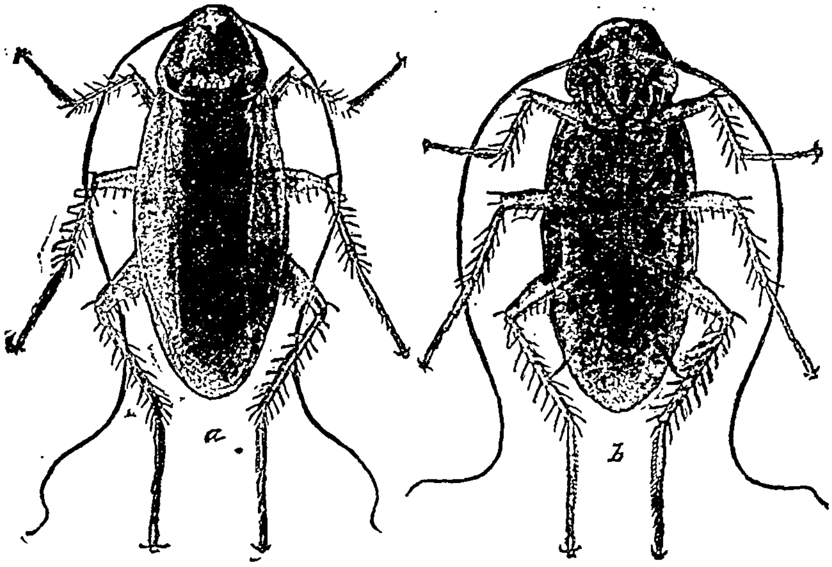

Fig. 5.—The American roach (*Periplaneta americana*) : A, view from above ; b, from beneath. Both enlarged one-third. From circular 51 (C. L. Marlatt), Bureau of Entomology, U. S. Department of Agriculture.

HOUSE-FLEAS

The human flea (*Pulex irritans L.*) and the dog and cat flea (*Ctenocephalus canis, Curtis*) are among the common nuisances found in houses in this country. Howard maintains that the flea most likely to be found in dwellings in this country is the cosmopolitan flea of the dog and cat. My observations, however, do not tend to confirm this, except in homes where these animals are kept. The human flea (*Pulex irritans*) is the prevailing flea of our country, and more especially in stock-raising districts. In small villages, where the homes are well-shaded and with a tendency to dampness, human fleas may be found in abundance. I have known an entire village to be infested with fleas after a drove of hogs and cattle had been driven through it. Homes that are damp during the summer are most liable to be infested with fleas.

The eggs of the *Ctenocephalus canis* are deposited among the hairs of dogs, cats, and numerous other animals. They may be deposited where animal material is free. There they develop and live until full grown. In warm, damp weather a generation may develop in a fortnight.

The flea, as a factor in the dissemination of plague and some other diseases, has been so fully established that it does not call for further comment here. The flea as a carrier of typhoid has not been so thoroughly brought out. From some 500 human fleas which were allowed to suck the blood of typhoid patients I have secured twenty cultures. Typhoid cultures were secured from 5 out of 650 of the dog and cat fleas. The extreme difficulty in securing the fleas, keeping them in captivity, and placing them in an artificial environment after possible injury, gives, I believe, a good reason for the small percentage of cultures. I am fully convinced, as were my confrères, that two of the cases which came under my service were inoculated by the house-flea.

BEDBUGS

The bedbug (*Cimex lectularius L.*) is the most loathsome insect infesting the habitations of man. It is commonly found in the homes of the squalid, yet it may be found in the palaces of kings. It is found in the cracks and crevices of old houses, in old mattresses, bedsteads, and more especially when these are approximate to human beings. It is nocturnal in its habits and inactive in cold weather. The food of the bedbug is normally human blood, yet it may subsist for a time on other substances. The eggs of the bedbug are laid in such places as are used by them for concealment. They are laid in clusters, each cluster containing six to fifty eggs. The period of growth, from the egg to the adult, varies greatly with temperature and food supply (Howard). Under ordinary conditions eight or ten weeks is necessary for rearing a generation of bedbugs.

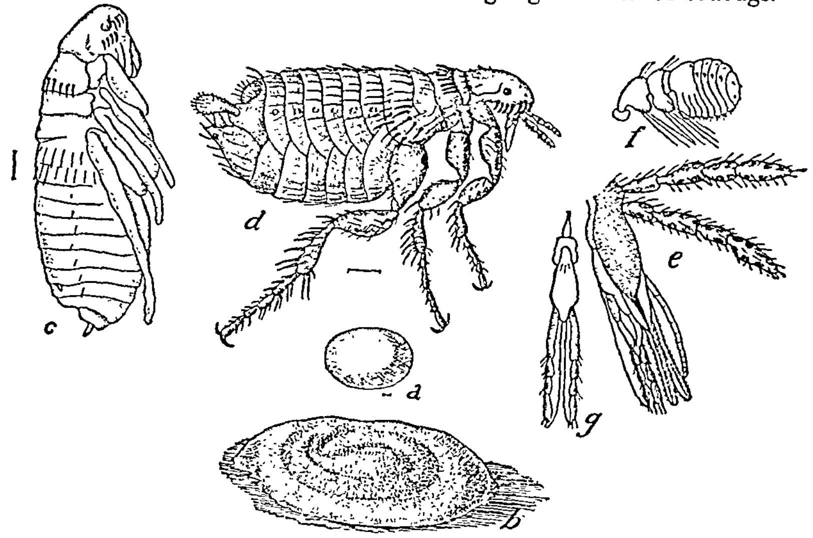

Fig. 6.—Cat and dog flea (*Ctenocephalus canis*) : A, egg, b, larva in cocoon ; c, pupa ; d, adult ; e, mouth-parts of same from side ; f, antenna ; g, labium from below ; b, c, d, much enlarged ; a, e, f, g, more enlarged. From circular 108 (by L. O. Howard), Bureau of Entomology, U. S. Department of Agriculture.

The bedbug has been found by observers to be a factor in the transmission of various diseases, as tuberculosis and relapsing fever. I believe that my investigations, covering a period of three years, have a prior claim over that of others in respect to the transmission of typhoid bacilli by the bedbug. I had observed among Poles, Italians, and Russians, in filthy quarters, where the beds had been used by typhoid patients, that succeeding occupants were stricken with typhoid. I had noted that after having been bitten with bedbugs, in from eight to fifteen days they were attacked with typhoid.

This disease-carrying factor was suggested to an Italian tenant of one of a number of typhoid-infected houses, with the advice that the beds be destroyed by fire and the house fumigated. The advice was refused. To test the case, the man offered himself for experiment. I collected some bedbugs, starved them for several days, then placed them on the abdomen of his 8-year-old daughter, who had typhoid, incarcerating them under a square piece of a fleece-lined undershirt, fastened at the edges with zinc oxid adhesive plaster. In six hours the bugs, satiated with blood, were imprisoned between soiled pieces of canvas and allowed to remain twenty-four hours. They were then transferred to the abdomen of the father, imprisoned in the same manner as on the child, and allowed to remain twelve hours. It was noted that only about one-third of the bugs had bitten the subject. After removal, the bugs were crushed between glass slides and cultures made. These cultures showed the Eberth bacilli. Unfortunately, a few of the bugs escaped and fed on the blood of an 11-year-old boy, with whom the subject was sleeping. The father developed typhoid of the most virulent type in fourteen days and the boy in twelve days. The vitality of the *Bacillus typhosus* in the bedbug persists for several weeks, without any apparent lessening in virulency. In the case of the boy referred to above, the virulency was greatly increased.

MOSQUITOES

There are some 300 different mosquito species in the world, representing two dozen distinct genera. In North America, there are sixty species, representing ten genera. In the family Culicidæ are included two distinct types of mosquito, one with mouth-parts forming a long, slender, sucking proboscis, provided with sharp, needle-like stylets for piercing, the other with mouth-parts short and better adapted for lapping or supping liquids (Kellog). Two genera have a mouth of the latter type; all the others are piercers and blood-suckers. The females normally feed on plants, but when opportunity offers they feed on the blood of warm-blooded animals. Three genera of the piercing type are of special importance and interest to the medical profession, because of their relation to the development, incubation and dissemination of certain diseases of man and beast. These three genera are the *Culex, anopheles* and *Stegomyia* and, according to Kellogg, may be distinguished as follows:

Palpi (the mouth-feelers projecting by the side of the proboscis) long in both male and female, about as long as the proboscis: *Anopheles*. Palpi as long as proboscis in male, but only one-third as long in female. Scales on the head narrow and curved: *Culex*. Scales on the head flat and broad: *Stegomyia*.

Stegomyia and *Culex* are the breeders and disseminators of yellow fever and filariasis, and to the anopheles is given the responsibility of the breeding of malaria. I have been able to make cultures, in two cases, from mosquitoes (anopheles) after they had been satiated with the blood of a typhoid patient. Although this is not enough clinical evidence to be conclusive, it marks a starting-point for further investigations. I believe, however, that I am not alone when I say that mosquitoes may be active disseminators of many other diseases.

It is generally conceded that the larvæ of mosquitoes are aquatic, yet they are air-breathers. They are rapid breeders and may pass through several generations in the course of a year. The duration of a single generation may be twelve days. As adults, they hibernate and may be found during winter months in houses, barns, cellars, cisterns, culverts, etc. Mosquitoes do not fly far, but may be carried by light continued winds considerable distance from their breeding-places. An important factor to be noted in the spread of yellow-fever epidemics, as well as other insect-carried diseases, is the direction of the prevailing wind.

REMEDIES

Hydrocyanic-acid gas is one of the most effective remedies against household insects. The cyanid and gas is a deadly poison, and great care should be used when a house is fumigated. Some old remedies are insect powder (as pyrethrum), benzine, kerosene, corrosive sublimate, oil of turpentine, fumigation with sulphur, bisulphid of carbon, and traps. Many insects have natural enemies; as the roach and red ant against the bedbug, the ichneumon fly and tree-frog against the roach. A careful screening of windows and doors during the summer months, the use of sticky fly-paper and the elimination of breeding- and feeding-places will soon abate the fly nuisance. The means and methods of attack on the mosquito have been clearly delineated in recent literature by Gorgas, Guiteras, White and others. I will say in passing that by draining swamps, ponds and pools, the introduction of petroleum and other substances to kill the larvæ, the dissemination of dragon flies, and the screening of houses, cisterns, barrels, etc., leaves little for the pest to thrive on.

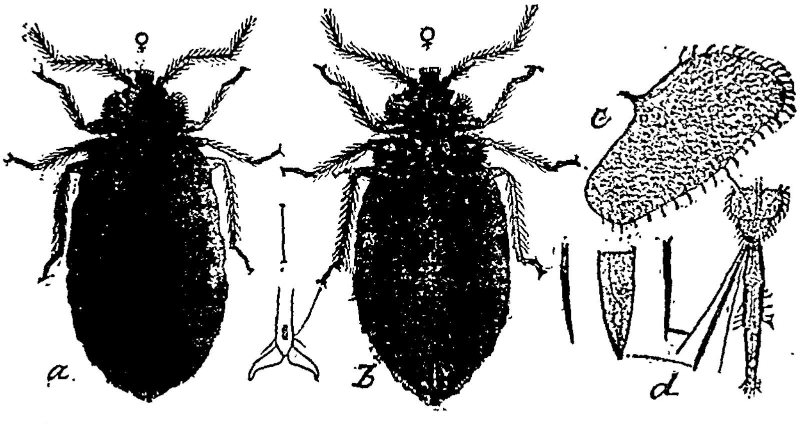

Fig. 7.—Bedbug (*Cimex lectularius*): A, adult female, gorged with blood; b, same from below; c, rudimentary wind-pad; d, mouth-parts; a, b, much enlarged; c, d, highly magnified. From Circular 47 (by C. L. Marlatt), Bureau of Entomology, U. S. Department of Agriculture.

The stools and urine of typhoid patients must be disinfected with chlorinated lime, or by cremation the moment voided. Especial attention should be given to the antiseptic toilet of the mouth, nose, anus and meatus urinarius. Bedding, utensils and such articles as may come in contact with the patient should be scrupulously guarded and disinfected. These precautions are valuable and necessary under any and all circumstances, but we are somewhat nonplussed when we have to deal with the human carriers of typhoid bacilli.

All mosquitoes, bedbugs, and fleas, which have sucked the blood of typhoid patients, contain typhoid bacilli.

The virulence and vitality of typhoid bacilli are preserved in these insects. Typhoid bacilli may be found in these insects from eight to twenty-one days after they have sucked the blood of a typhoid patient. The feces of these infected insects contain virulent bacilli as long as they persist in the alimentary canal or in the blood or secretions. Insects which have fed on patients infected by bacilli of high virulence by means of bites convey infection of equal virulence. The local inflammatory reaction of patients to bites of these infected insects is slight, and, in fact, no more than from the uninfected insect. Infected insects may communicate the disease for two or three weeks after infection. The injury to the skin caused by the bites of mosquitoes, bedbugs, or fleas offers an avenue of infection for typhoid bacilli. The bed-linen fabrics, or other material, on which infected insects may be crushed, offers a ready source of infection. All insects which feed on excreta, animal or vegetable material, and which frequent, breed and hatch, in or on, or come in contact with material infected with typhoid bacilli will become carriers thereof.

It may be argued that these insects do not bear a sufficiently important relation to the transmission of typhoid fever to be of value to preventive medicine. It is true that the evidence is not as convincing as it might be, but when we consider the unfavorable conditions under which investigations must necessarily be made it is certainly an important problem well worthy of further study. Occasionally the investigator is enabled to secure insects immediately after they have become infected, but generally he must work with captive insects, using artificial means, in a strange environment. Thus his efforts are often thwarted, and persistence, perseverance, and an immense amount of systematic work is necessary to secure positive results. The isolation of a pure culture of typhoid bacillus from the blood of suctorial insects is no small matter. The isolation of the bacillus from the alvine discharges is even more difficult. Yet these insects are marvelous factors in the dissemination of the typhoid bacillus.

I should like to voice the sentiments of Dr. White as to the importance and significance of the study of entomology by physicians. It is a field practically untilled; yet some of the greatest advances of preventive medicine in modern times are due to the work of those who have labored therein. The pioneer work of Laveran, Manson, Ross, Sternberg and others initiated the campaign against the malaria-bearing mosquitoes. The subsequent researches of Manson and Bancroft have proved that filariæ are transmitted by mosquitoes. The suggestion, based on observations by Dr. Charles J. Finlay of Havana, that mosquitoes might be agents in spreading yellow fever was slightly regarded and even contemptuously received by investigators. It remained for the Army Yellow Fever Commission, in 1900, to report that yellow fever followed the bite of mosquito species, *Stegomyia fasciata.* Eminent investigators (Reed and Lazear of America and Dutton of Liverpool) lost their lives from attacks of the disease they were studying, caused by insects. The work that these pioneers had so nobly advanced has been efficiently maintained by Gorgas, White, and others associated with them in their work.

In this brief account of the rôle that certain insects play in the propagation and dissemination of typhoid fever, only a small part has been told. I believe that within two years observers will be able to find that insects are the disseminating medium of various other diseases. The medical profession and laity are fortunate to have the government bureau of entomology, under the efficient direction of Dr. L. O. Howard, it having made possible many advances in preventive medicine.

The study of entomology and its relation to disease is comparatively recent, and it offers one of the most prolific and promising fields in preventive medicine.

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TYPHOID IMMUNITY AND ANTITYPHOID INOCULATION *

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The difficulties attending the diagnosis of mild types of typhoid fever have made the study of the duration of immunity conferred by an attack a perplexing one. The differentiation of typhoid-like, paratyphoid, colon and paracolon infections is by no means easy, even for those so fortunate as to have at their disposal ample facilities for conducting blood culture and agglutination tests against strains of all the bacteria mentioned.

Typhoid simulating mild types of meningitis, early tuberculosis and many pneumonias with delayed resolution, likewise malarial fever (so-called) is frequently overlooked. In our hospital wards one rarely hears, in taking the history of a typhoid case, reference to an earlier attack. Most writers agree that, as in many other acute systemic infections, one attack is sufficient to produce a probable, although not absolute, immunity against later attack. Dreschfeld's figures, based on 2,000 cases in the Hamburg General Hospital, show that only 0.7 per cent. were affected twice. It is extremely probable, however, that the actual incidence of attack in individuals once infected is much greater than these figures indicate because of lack of facility in the way of accurate laboratory and clinical observation in many localities where the disease is prevalent.

The various antibacterial substance elaborated in the blood and the tissue fluids of an infected individual serve, however, in a large percentage of cases to protect against subsequent attack. These antitropic substances, the agglutinins, lysins, bactericidins and latterly the bodies concerned with phagocytosis (the opsonins and stimulins), are distinctly antibacterial rather than antitoxic in their function. The process of immunization in typhoid is, according to present knowledge, a matter of specific reaction on the part of the body cells to the protein molecule making up the cell structure of the bacterium. This reaction is specific for the protein molecule exciting the reaction on the part of the body cells and take place, according to Vaughan and Wheeler,[1] through the liberation of a specific ferment which is activated or liberated through excitation by the proteid in question, whether bacterial, animal or vegetable. Such specific reaction in the process of immunity protects only against the specific proteid derivative which calls it forth; that is to say, the proteid derivatives obtained from colon bacilli protect, when inoculated, only against colon bacilli. The reaction is specific in the sense that the antibacterial substances elaborated under the influence of an infection are protective only against that infection.

THE BLOOD CHANGES DURING AND FOLLOWING AN ATTACK OF TYPHOID FEVER

Agglutinins.—During the second week of typhoid fever the agglutinins, in accord with general experience, are increased so that, on an average, the serum will agglutinate typhoid bacilli in dilutions from 1 in 100 to 1 in 200, exceptionally 1 in 400 or higher. After the decline of the fever there is rapid decrease in agglutinative value, the average being 1 in 60 or 1 in 80. For a few months to one year or longer this value remains low at about 1 in 40 to 1 in 60. (In my own case eighteen months after an attack of typhoid the serum would agglutinate in dilutions of 1 in 60.) Exceptionally a very high agglutinative value may be obtained as mentioned by Leishman and Harrison,[2] who refer to one patient whose serum, six months after the commencement of the illness, would agglutinate in dilutions of 1 in 1000.

Bactericidins.[3]—The bactericidal powers are increased, on an average, two or three times above the normal (which has more or less bactericidal power in dilutions from 1 in 10 to 1 in 20) during the first few weeks after the commencement of an attack. This power gradually falls at the decline of the fever so that the normal is reached at above the fourth month. Fatal cases may show a relatively high bactericidal power.

Opsonins.[4]—In contrast to the low bactericidal power of serum obtained during the decline of the fever and afterward, the opsonic index is relatively high. During the first few weeks of the fever the index is increased to 1.5 to 3.5. There is usually a slight decline during convalescence, although occasionally high indices may be obtained at this time. As a rule a high index, from 2 to 3, is found to persist for months after an attack. The only fatal case (bowel perforation at the end of the second week) I have been able to follow had a low index of 0.6 from the beginning. The general impression is that cases manifesting a persistently low index have a less favorable prognosis. This may be true for the patients who die in typhoid from exhaustion, a relatively small number, when compared with those dying from hemorrhage or perforation. It is conceivable, on the other hand, that a low phagocytic power to destroy bacilli locally is responsible for extensive necrosis of an intestinal ulcer leading to such erosion as eventually favors hemorrhage or perforation.

Stimulins.—Heating a serum to 60 C. renders the opsonin it contains inert, at least for some strains of typhoid bacilli. On the other hand, some strains are more readily phagocytable when the serum is heated to 60 C. The substance remaining in the blood serum heated to 60 which is still capable of inducing phagocytosis has been called "stimulin." It is more stable than opsonin. In some cases cited by the Royal Army Commission, heated serums showed double the power to activate phagocytes over that obtained with unheated serums. The only statistics available in this connection are those of Leishman and Harrison,[2] who estimated the stimulin value of the serums of thirty-five typhoid patients by adding a small amount of their heated serums to heated normal serum which was then tested as to its power to stimulate the phagocytic activity of normal leucocytes. During convalescence and afterward the stimulin curve rises considerable above normal to 2 or 2.5, at about which points it is maintained for months after the attack.

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Vaughan, V. C., and Wheeler, May S.: Experimental Immunity to Colon and Typhoid Bacilli, New York Med. Jour., June 22, 1907.

[2] Leishman, W. B., Harrison, W. S., et al: Third Report on Experiments in Connection with Antityphoid Vaccine, Jour. Roy. Army Med. Corps, October, 1908.

[3] To determine the bactericidal power of a serum progressive dilutions are mixed with a measured quantity of twenty-four-hour broth culture of bacilli and allowed to remain in the incubator at 37 C. for fifteen minutes. Agar plates are then inoculated with the mixture and the number of colonies which develop after twenty-four hours are estimated.

[4] It makes some difference in the results obtained whether one uses the method of Wright or Klein in estimating the index; also whether a virulent or non-virulent strain is used for the bacterial emulsion.

PREPARATION OF ANTITYPHOID VACCINE

The early history of antityphoid inoculation concerned itself with the same problems which led up to the Pasteur methods of inoculation against rabies and anthrax or to the anticholera inoculations of Haffkine; i. e., by the use of attenuated living virus. Such methods of procedure in typhoid prophylaxis have seemed to be quite beyond the necessity of its scope. The pioneer work of Prof. R. Pfeiffer,[5] in 1896, who was able to obtain a specific agglutinin reaction in man by the injection of heated typhoid culture in two cases, led, through a personal communication to A. E. Wright, to the experimental work and the publishing of the results of two inoculations by him.[6]

To Wright belongs the credit of placing the method on a rational basis through many thousand preventive inoculations made in the British army in India and during the Boer War. The investigations carried on in the laboratories of the Royal Army Medical College under Leishman, as well as the stamp of approval placed on the results obtained by the Royal Army Commission and the Royal College of Physicians, to which was referred the question of the efficacy of antityphoid inoculation, has done much to dispel the skepticism with which it was first regarded.

Wright's method, with slight modification, has been followed since that time. In general as in the preparation of other bacterial vaccines the following principles are followed: 1. The vaccine must be capable of stimulating the production of protective typhocidins, lysins, agglutinins and opsonins (typhoid and cholera differ from many other acute infections in that bactericidins and bacteriolysins are largely limited to them). 2. The vaccine must not be so altered in its preparation by heat or chemical agents as to impair its immunizing properties. 3. The dosage employed must be sufficient to maintain a phase of increased resistance to infection for a considerable period.

In the earlier work the vaccine was prepared as follows: Broth cultures of non-virulent typhoid bacilli, after from 10 to 21 days' growth at 37 C., were standardized and exposed to a temperature of 60 C. for fifteen minutes, after which 0.45 to 0.50 per cent. phenol was added for purpose of preservation. Broth cultures cultivated for from ten to twenty-one days undergo considerable autolysis so that standardization is difficult, so that more recently twenty-four-hour broth cultures have been used (agar cultures twenty hours old may be used in the preparation of vaccine on a smaller scale). Overheating greatly impairs the immunizing properties of the vaccine. The thermal death point of most strains of typhoid bacilli is 53 C. (occasionally one may meet with an exceptionally resistant strain) at which point, at present, the bacterial suspension is maintained for one hour.

The addition of phenol or liquor cresolis compositus to the vaccine when hot destroys its immunizing efficacy. Liquor cresolis compositus (0.25 per cent.), which is largely used, is sufficient to preserve the vaccine against contaminating anaërobes or spore-bearing bacteria. Phenol is in some respects superior to liquor cresolis compositus, since the cloudy, at times clumpy, masses found in some cresolized salt solutions are avoided. I have more recently avoided heat in the preparation of the vaccine. Harrison[7] has shown that 0.2 per cent. compound solution of cresol is sufficient to inhibit the growth of typhoid bacilli in broth, while Leishman and his co-workers[8] have shown that 0.25 per cent. liquor cresolis compositus added to unheated typhoid vaccine is sufficient of itself to render it sterile in twenty-four hours. Moreover, vaccine prepared by the simple addition of liquor cresolis compositus without heat is capable of inducing in rabbits a rise in agglutinins, bactericidal substances and in substances concerned with phagocytosis. I have more recently added 0.4 to 0.5 per cent. phenol in normal salt to the bacterial suspension *without* heat in the preparation of the vaccine. The vaccine is sterile in forty-eight to seventy-two hours. Such vaccines seem to produce a rise in the antibodies concerned with immunization in smaller dosage than vaccines killed by heat. On the other hand, it should be noted that heating a typhoid vaccine to 53 C. for one hour does not impair it.

Along this line it may be of interest to mention certain results obtained with other chemical agents used to devitalize bacterial vaccines without heat. Acetozone in saturated solution, 1 to 1,000, was used as a diluent. A suspension of three strains of typhoid bacilli containing approximately 5,000,000,000 per c.c. was diluted with twenty volumes of acetozone, 1 in 1,000. The suspension was sterile in forty-eight hours. Doses of this vaccine when inoculated in one individual produced after fourteen days an agglutinative reaction in one-half hour after administration, with a 1 in 500 dilution of the serum.

Acetozone, 1 in 1,000, in doses of 1 to 2 c.c., is non-irritating when injected subcutaneously. A 1-in-2,000 acetozone solution failed to sterilize a vaccine made from an avirulent strain in five days. A saturated chloretone (0.5 to 0.7 per cent. with heat) in normal salt (after a suggestion by Dr. Willard H. Hutchings) would sterilize unheated bacterial suspensions of typhoid containing 1,000,000,000 and 2,000,000,000 per c.c., respectively, in twenty-four hours, but the vaccine containing 2,000,000,000 per c.c. germinated and a diffuse growth on agar was obtainable after seventy-two hours, while the 1,000,000,000 vaccine was still sterile after ten days.

Macfadyen[9] suggested in 1903 a method of preparing typhoid vaccine by trituration and grinding, such as is used in the preparation of Koch's new tuberculin. Such a method, without the security of sterilization, involves the risk of transmitting infection and does not produce a more potent vaccine. Among the other methods which have been tried may be mentioned the use of "washed bacteria" as a vaccine; bacterial suspensions killed by chloroform vapor, and vaccine killed by the addition of 20 per cent. neutral glycerin. All of those methods produce a rise in the substances concerned with acquired immunity, but no more effectively than the standard vaccine. Harrison has used typhoid bacilli in glycerin emulsion by mouth, also sterile typhoid bacilli suspended in fat and enclosed in gelatine capsules, by mouth. Although it appeared possible to increase slightly the antibacterial elements in the blood by such methods of administration the results, on the whole, were not as satisfactory as those obtained by subcutaneous inoculation.

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[5] Pfeiffer, R., and Kolle: Deutsch. med. Wchnschr., Nov. 12, 1896.

[6] Wright, A. E.: Lancet, London, Sept. 18, 1896.

[7] Harrison, W. S.: Report on Experiments in Connection with Antityphoid Vaccine, Jour. Roy. Army Med. Corps, May, 1907.

[8] Leishman, W. B., et al: Report on Further Experiments in Connection with Antityphoid Inoculation, a continuation of work published in Jour. Roy. Army Med. Corps for May, 1907.

[9] Proc. Roy. Soc., 1903, quoted by A. E. Wright in A Short Treatise on Antityphoid Inoculation, London, 1904.

THE RELATIVE EFFICIENCY OF VACCINES PREPARED FROM VIRULENT AND NON-VIRULENT STRAINS

The earlier work done with various strains of typhoid bacilli, as in the preparation of other vaccines, seemed to convey the impression that virulent strains, when injected, produced a more decided rise in protective antibodies than vaccines prepared from non-virulent, long-cultivated strains. This impression has not been borne out by facts. A typhoid vaccine prepared from a single non-virulent strain is quite as capable of inducing a sufficient immunizing response as vaccine prepared from two or more virulent strains. This protection exists against other non-virulent strains and also against single or multiple virulent strains.

DURATION OF POTENCY OF TYPHOID VACCINES

Typhoid vaccine six months or more old is apt to lose a considerable amount of its immunizing potency. Vaccine three months old has been found by Leishman and Harrison to be as potent as when freshly made.

To be on the safe side, vaccine not over three or four months old should be used. Extreme degrees of heat or cold seem to affect the immunizing qualities of a vaccine if kept for a considerable period under such conditions. Room temperatures seem best suited for preservation.

METHOD OF ADMINISTRATION AND DOSAGE: THE LOCAL AND GENERAL REACTION

Although a considerable immunity results from one inoculation of 500,000,000 to 1,000,000,000 bacilli, this immunity may be much augmented by a subsequent injection of 1,000,000,000 ten to fourteen days. The Royal Army Commission, appointed in October, 1904, found that an interval of about ten days should separate the doses. The first dose consists of 500,000,000 to 1,000,000,000 and the second from 1,000,000,000 to 1,500,000,000. The injections are conveniently given subcutaneously on the outer side of the upper third of the arm near the point of insertion of the deltoid, or subcutaneously in the abdominal wall. The needle should not puncture the muscle, as pain is produced and a considerable local reaction follows. The site of injection usually becomes reddened and slightly tender to touch, but these local manifestations disappear in about twenty-four hours. The first dose of vaccine does not, in my experience, produce any marked degree of reaction, local or general. Occasionally in a hypersusceptible subject the general reaction is severe. This is manifested by a feeling of malaise and headache with more or less general muscular aching and a temperature which may reach 100 or 101 F. for a few hours. This general reaction is more apt to occur after the second injection of 1,000,000,000 to 1,500,000,000, but it disappears within twenty-four hours. Patients are seldom required to give up their work. The best time for administration of the vaccine is in the late afternoon so that rest may be secured early in the evening.

THE BLOOD CHANGES AFTER PREVENTIVE INOCULATIONS AND THE DURATION OF IMMUNITY

Agglutinins.—The agglutination curve begins to rise about nine days after an inoculation and reaches on an average 1 in 500 to 1 in 1,000 by the tenth or eleventh day. The average has been about 1 in 500 in my cases. Occasionally a very high agglutinative point may be reached as in a case cited by Shoemaker,[10] in which eleven days after the first inoculation agglutination was obtained in a dilution of 1 in 12,800.

The immediate effect of the second inoculation may be temporarily to lower the agglutinative value reached as a result of the first inoculation, for twenty-four to thirty-six hours, but the value is then increased, reaching in some cases 1 in 1,200, 1 in 1,500, to 1 in 8,000. Such a high point may be maintained for a number of months, but a decline manifests itself within a year, at the end of which time the serum will usually agglutinate bacilli in dilutions of 1 in 100 or 1 in 200. Harrison has reported agglutinin reactions in dilutions of 1 in 30 four years after inoculation and complete reactions in dilution of 1 in 20 after six years.

Bactericidins.—The bactericidal substances are increased fourfold or fivefold by the inoculations. There seems to be less decrease in these substances after considerable time than in the agglutinin value of the serum. For example, Harrison has found the bactericidal value four times the normal one year after inoculation; three or four times the normal after four years, and two and one-half times the normal after six years.

Bacteriolysins.—The bacteriolytic substances are likewise increased. Serums from inoculated subjects diluted 1 in 5 to 1 in 10 and mixed with living typhoid bacilli cause either complete disappearance of the organisms or their reduction to amorphous masses.

Opsonins and Stimulins.—The opsonic index is markedly increased, reaching often 2 or 2.5 after the first and 3 to 5.5 after the second inoculation. Stimulins are also increased; serum after the inoculations when heated to 60 C. gives from one and a half to two times the power to activate phagocytes over that shown by unheated serum. In general the results obtained by Leishman and Harrison agree with those obtained by Klein,[11] who found, by dilution experiments, in immunizing rabbits by subcutaneous injections of living typhoid bacilli, that opsonins were considerably augmented. He also found that typho-agglutinins and lysins were increased and comparatively, that the opsonins and lysins increased more rapidly than agglutinins. The discrepant results obtained, as regards the opsonins, have been shown by Clark and Simonds[12] to be due to the use of different strains of organisms. Markedly divergent results may be obtained using different strains with the same serum. In fact, some strains, when freshly isolated, may give considerable spontaneous phagocytosis, while repeated transplantation of strains which do not induce spontaneous phagocytosis may render them very susceptible to phagocytes in the absence of serum. One strain virulent to rabbits may give a lower opsonic index with rabbit serum than a non-virulent strain, while again with the same serum another virulent strain may give a higher index than the non-virulent strain.

The duration of immunity produced by preventive inoculations has been variously estimated at from two to six years. In many cases the immunity probably lasts for life, although of this conjecture no definite proof exists. Whether the immunity following the inoculations in man is sufficient to ward off infection with virulent typhoid bacilli is not known. The striking preponderance of the substances which have to do with phagocytosis (opsonins and stimulins) stand out more clearly as evidence of increased protection following preventive inoculations than the other bacteriotropic substances concerned with this form of acquired immunity.

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[10] Shoemaker, H.: Observations on Prophylactic Inoculation Against Typhoid Fever, New York Med. Jour., Feb. 6, 1909.

[11] Klein, H.: Johns Hopkins Hosp. Bull., 1907, xviii, 245.

[12] Clark, C. P., and Simonds, J. P.: Jour Infect. Dis., 1908, i, 1.

THE PROTECTIVE POWER OF ANTITYPHOID VACCINE AGAINST PARATYPHOID INFECTION

Since the substances concerned with acquired immunity to typhoid have been shown to be largely those which pertain to phagocytosis, the opsonins and stimulins, it becomes a matter of interest to know whether the injection of antityphoid vaccine increases the phagocytic stimulating activity of the blood serum against paratyphoid infection. Clark and Simonds[12] find that "opsonins arising in typhoid fever are generally, if not constantly, equally capable of stimulating phagocytosis of paratyphoid bacilli," and, moreover, that the injection of either typhoid or paratyphoid vaccine caused a rise in the opsonic index for both organisms in rabbits. The index gradually increased after each injection. On the other hand, Leishman and his co-workers did not find that inoculations of antityphoid vaccine in man produced any increase in the phagocytic value or, for that matter, any increase in agglutinins or bactericidins, when tested against two strains of paratyphoid bacilli. In the light of these differences it may be concluded that the matter of protection against paratyphoid fever afforded by injections of antityphoid vaccine has not been settled.

CONDENSED STATISTICS RELATIVE TO ANTITYPHOID INOCULATION IN THE BRITISH ARMY AND THE ADOPTION OF THE PROCEDURE IN THE U. S. ARMY

Leishman[13] has recently given the results of inoculation in the second battalion of the Royal Fusiliers in India from December, 1904.

TABLE 1.—Results of Inoculation in One Battalion

Strength of Regiment.	No. Inoc.	Admitted to Hospital to Date. Non-inoculated. Cases.	Deaths.	Inoculated. Cases.	Deaths.
12/31/1905, 883	103	2	0	0	0
12/31/1906, 1013	181	35	5	9	0

The statistics of the Seventeenth Lancers in India from October, 1905, are also very favorable. In a regiment varying from 508 to 680 men, 425 men were inoculated with antityphoid vaccine from October, 1905,, to May 1, 1907. Among the inoculated men during this period, two developed typhoid with no deaths, while among the non-inoculated men there occurred 69 cases of typhoid with eleven deaths. Among the inoculated men, each of the two in whom typhoid occurred had refused to take the second dose of vaccine, which in the case of this regiment was prepared at 53 C. No case of typhoid has occurred in this regiment among the men who received two inoculations of this vaccine. In seven large India regiments the results have been as shown in Table 2.

TABLE 2.—Results of Inoculation in Seven Regiments, January 1 to June 30, 1907

	Strength.	Cases.	Deaths.	Incidence Per 1000	Mortality Per 1000
Non-Inoculated..	8113	173	42	21.32 (+1.08)	5.18 (+0.54)
Inoculated......	2207	15	3	9.80 (+1.18)	1.36 (+0.53)

The latest statistics in the British army[14] up to June 1, 1908, relative to prophylactic inoculation are as follows: Among 12,083 men comprising sixteen regimental units, 5,473 were inoculated. These regiments were stationed in India, Egypt, Malta, Crete, South Africa, etc. The case incidence per thousand, taken as a whole, among the inoculated men, was 3.8, while among the non-inoculated men the case incidence per thousand was 28.3. Among those sixteen units in which typhoid occurred (typhoid did not occur in some of the regiments) the case incidence per thousand among the inoculated men was 6.6, while among the non-inoculated men the case incidence per thousand was 39.5.

In the U. S. army, the work begun last December, as a result of the conclusions reached by the medical board appointed for the purpose, is well under way. This board consisted of Surgeon-General O'Reilly, V. C. Vaughan, W. T. Councilman, J. H. Musser, A. Lambert, Simon Flexner, W. S. Thayer and Major F. F. Russell, of the Medical Corps, U. S. Army. The conclusions reached by them are as follows:

1. The board is convinced that the practice of antityphoid vaccination is both useful and harmless, and that it offers a practicable means of diminishing the amount of typhoid fever in the army, both in times of peace and war.
2. It finds that the experience to date with antityphoid vaccination justifies it in recommending the introduction of the practice in the regular and volunteer armies in time of war.
3. It recommends the immediate introduction of the practice of vaccination against typhoid in the Hospital Corps, the Army Nurse Corps, and in any expedition of troops from the regular army which is ordered to take the field for active operations; and further, that an opportunity be given to volunteers from the army as a whole to be protected by vaccination against typhoid.

The vaccination work is under the charge of Major Russell, of the Medical Corps, and is entirely voluntary.

THE INOCULATION OF ANTITYPHOID VACCINE IN TYPHOID-CARRIERS. IN ENDEMIC AND EPIDEMIC AREAS. GENERAL CONCLUSIONS

Investigations have established that about 4 per cent. of convalescent typhoid cases become chronic "typhoid-carriers," disseminating the infection more or less constantly with the feces and urine for periods of years.

Where new cases of the disease can, with fair degree of presumption, be traced by appropriate bacteriologic tests to such individuals, especially cooks, dairymen or dairymaids, workers in confectionery, waiters and waitresses or those who have to do with the handling of food in any way, the inoculation of antityphoid vaccine offers a more certain means of raising the bacterial resistance in such individuals than any other known method of treatment.

The method of antityphoid vaccination involves no risk and is especially applicable for those constantly exposed to infection, such as nurses, hospital attendants and physicians.

Antityphoid inoculations should be avoided if possible in individuals during the incubation stage of typhoid, for, although it is probable that the stage of diminished resistance (negative phase) for a few days following the inoculation is more theoretical than real, it is more wise, in the present state of knowledge, to avoid the possibility of cumulation.

In endemic areas, where a considerable proportion of the population annually suffers the infection, or in epidemic areas, where there is reason to suppose the possibility of widespread infection, inoculations of antityphoid vaccine are indicated in individuals not in the prodromal or incubation stage of the disease.

The Colton Building.

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[13] Leishman, W. B.: Antityphoid Inoculation in the British Army, Mil. Surg., 1908, xxii, 6.

[14] Leishman, W. B.: Statistical Table of Recent Results of Antityphoid Inoculation, Jour. Roy. Army Med. Corps, 1908.

Deserves Publicity.—We quote from a recent case report: "This was a young lady, middle-aged. . . . I think such cases deserve as much publicity as possible."

EPIDEMIOLOGIC STUDIES OF TYPHOID FEVER *

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PREVALENCE OF TYPHOID FEVER IN THE UNITED STATES

Judging by obtainable figures, there are in the United States comparatively few communities of over 1,000 persons which during any period of twelve consecutive months within the past ten years have been entirely free from typhoid fever. The extensive prevalence of this thoroughly preventable disease in our country as a whole is beginning to be justly considered a national disgrace.

Communities, like individuals, seem to be as a rule unable to profit by the experiences of others, and the history of typhoid fever is replete with instances of communities having failed to carry out clearly indicated preventive measures until the occurrence among them of severe epidemics has caused an awakening.

NATURE AND SOURCE OF THE INFECTIOUS AGENT

At present the generally accepted view is that typhoid fever is an infectious disease caused by a specific parasitic organism, the typhoid bacillus. The undetermined elements in the causation of the disease are those concerned in the establishment of individual susceptibility to the infection and, in some instances, those concerned in the transmission of the infection. All known facts on the subject support the view that man is the permanent host of the parasitic organisms which cause typhoid fever, and that if their multiplication in and their dissemination by the human host could be prevented these organisms would soon perish from the earth. Therefore, what appears a sound belief, based on epidemiologic findings, is that "each and every case of typhoid fever comes somehow from some previous case." (Sedgwick).

PREVENTION OF INFECTION

The specific parasite which causes typhoid fever and its permanent host being known, an apparently simple formula to prevent the disease is to destroy the infection as it leaves the bodies of infectious persons. Could such a plan of action be made sufficiently wide in scope it would promise success; but the people of a given community may use water, milk and various foodstuffs obtained from a distance and liable to contamination with the excreta of infectious persons over whom their own health officials have no jurisdiction. Therefore, for the local health officer the two principal plans of action to prevent typhoid fever in his community should be the following:

1. The discovery of and the prevention of the spread of infection from persons in his community who harbor infection (typhoid fever patients and bacillus-carriers).
2. The prevention of the introduction of infection into his community from without through various channels, such as the water-supply, milk-supply, and the general food-supply.

DETERMINATION OF IMMEDIATE SOURCES OF INFECTION

In order to determine the principal immediate sources of the infection in a locality careful epidemiologic studies are necessary. Explosive outbreaks, such as those produced by highly infected water or milk, present rather characteristic features, and as a rule epidemiologic studies of these will point out quite readily and definitely the source of the infection. But in communities where a high rate of prevalence of typhoid fever is maintained for years and is due to a number of different factors which vary in relative extent of operation from time to time, the problem becomes very intricate and its exact solution exceedingly difficult.

Studies of all typhoid fever situations, however, should be conducted along the same general lines. Hasty conclusions, based on first-glance impressions, should be avoided. Every factor possibly concerned in the spread of the infection should be carefully considered and investigated. As the facts are collected one factor after another may be eliminated, until definite conclusions may be drawn as to the principal source, or sources, of the infection.

DIFFERENT TYPES OF TYPHOID FEVER SITUATIONS PRESENTED FOR STUDY

Large urban communities in which the disease has prevailed for a long time as a rule present complex typhoid fever situations. Here the conditions of life are complex. Large numbers of all classes of people are in close association. Foodstuffs are obtained from many sources and handled by many persons. In some instances the water-supply is obtained from a number of different sources. Small communities, usually free of the disease, when visited by sudden and extensive outbreaks, present, as a rule, simple typhoid fever situations.

During the last three years as a member of a board of officers[1] detailed by the Surgeon-General of the Public Health and Marine-Hospital Service to study the origin and prevalence of typhoid fever in the District of Columbia, I have been engaged in a study of a situation of the complex type; and recently I have conducted an investigation of an outbreak at the National Park Seminary at Forest Glen, Md., which was of the simpler type of typhoid fever situation. These two situations may be presented as a striking contrast:

THE TYPHOID FEVER SITUATION IN WASHINGTON, D. C.

Previous to 1906 there was quite a general consensus of opinion among those who had given attention to the subject that the high rate of prevalence of typhoid fever in Washington was due to the polluted public water-supply obtained from the Potomac River.

Effect of Filtration of the Public Water-Supply on the Typhoid Fever Rate.—In October, 1905, a filtration plant was completed and since then the city has been supplied continuously with filtered Potomac River water. During the winter and spring months following the installation of the sand filters there was comparatively little typhoid fever in Washington, but early in July, 1906, there occurred a great increase in the number of cases and the disease was properly regarded as prevailing in epidemic form.

This marked increase in the prevalence of typhoid fever with the advent of summer weather corresponded with the history of the disease in many previous years. The typhoid fever death rate for the calendar year 1906 was 49.3 per 100,000, while for the three years immediately previous to the filtration of the water it averaged about 44 per 100,000. Thus, the rate in 1906, the first year after the filtration of the water, was somewhat in excess of the rates of the several years previous, despite the fact that the results of the bacteriologic analyses of the water showed that the filtration accomplished a very great reduction in the total bacterial content of the applied water such as was supplied to the city during the three years previous to filtration. In 1907 and 1908, the second and third years after filtration, the typhoid fever case and death rates in Washington were lower than in any other years of which there is record The typhoid fever death rate in 1907 was 34.5 and in 1908 36.5 per 100,000. The reduction in the rate in these two years is accounted for by the reduction which occurred in the summer typhoid. The rates in the winter, spring and fall seasons of the three years 1906, 1907 and 1908 were almost exactly the same.

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Surgeon M. J. Rosenau, chairman; Passed Assistant Surgeon L. L. Lumsden; and Prof. Joseph H. Kastle, recorder.

An important question and one difficult to answer positively is: How much, if any, of the reduction in the typhoid fever rate in the summers of 1907 and 1908 was due to the improvement in the water-supply as the result of sand filtration? Had such a reduced rate been observed in the summer of 1906, the first year after the filters were put into operation, probably few if any would have doubted that the reduction in the summer typhoid had been accomplished by the improvement in the water supply.

Judged by bacteriologic standards we found the filtered water supplied the city in the summers of 1907 and 1908 was of considerably better quality than the filtered water supplied the city in the summer of 1906. The fact that the higher degree of improvement of the filtered water was followed by a reduction in the typhoid rate, to my mind, suggests cause and effect.

As a board we have not been able to decide definitely as to what part water-borne infection played in the causation of typhoid fever in Washington in 1906; but we are satisfied, by the results of our studies, that the Potomac River water previous to filtration caused much less of Washington's typhoid than was generally supposed, and that in the summers of 1907 and 1908 the public filtered water-supply played a relatively minor rôle, if any, in the causation of the disease.

Milk.—In the typhoid fever seasons (May 1 to November 1) of each of the three years, 1906, 1907 and 1908, we have definitely attributed about 10 per cent. of the cases originating in the District of Columbia to milk-borne infection. These cases occurred in the course of pronounced milk outbreaks among the customers of certain dairymen.

In the season of 1906 there were three such outbreaks, in the season of 1907 one, and in the season of 1908 one. The outbreak in the fall of 1908[2] was of particular interest, inasmuch as the infection was traced to a bacillus-carrier who was engaged in handling the milk on one of the farms from which the implicated supply was obtained. This woman gave a history of having had typhoid fever about eighteen years before and of having been since then in robust health.

Besides the cases which have occurred in the course of pronounced milk outbreaks we believe that there have been a number of scattering cases due to infected milk which we have not been able to trace, and we consider milk one of the major factors concerned in the transmission of typhoid fever in Washington.

Contact.—In the cases originating in the District of Columbia during the typhoid seasons of 1907 and 1908 about 20 per cent. of the patients gave a history of more or less direct or indirect association, during the thirty days previous to onset of illness, with previous patients in the febrile stage of the disease and were attributed to infection by contact.

Considering the large amount of association between persons living in a large city and the number of ways in which infection through personal contact may occur it is easy to understand that many cases in a large city may be due to infection by contact which can not be traced, and I regard personal contact as one of the major factors concerned in the transmission of typhoid fever infection in the District of Columbia.

Imported Cases.—About 24 per cent. of the cases of typhoid fever which were reported in the District of Columbia during the typhoid seasons of 1907 and 1908 were cases in which the infection had been contracted outside the District of Columbia. In the 1906 period the imported cases amounted to about 15 per cent. of the total.

Intricacy of the Washington Problem.—A number of interesting details as to seasonal prevalence, racial distribution, relation of the seasonal abundance of flies to the seasonal prevalence of the disease, etc., have been worked out, but they are set forth in the publications[3] and enough has been cited to indicate the great intricacy of the typhoid fever problem in Washington.

There is no mystery as to why Washington has some typhoid fever, but there does seem to be some mystery as to why Washington still has so much typhoid fever. For a city having the climatic and general sanitary conditions of Washington and having no water-borne infection a typhoid death rate of 35 per 100,000 per year does seem comparatively high.

The "excessive" typhoid rate in Washington presents an interesting field for speculation, such as (1) the possibility that the public water-supply, though not distributing typhoid bacilli, does convey some other agents which have to do with the establishment of susceptibility to typhoid infection; (2) the possibility of there being peculiarly active in Washington some as yet entirely unknown agent or agents which are concerned in the dissemination of the infection.

The fact that communities which have good water, a properly safeguarded milk-supply, a good sewerage system, and in which cases of the disease are properly cared for, have little or no typhoid fever indicates either that there are no unknown agents much concerned in the spread of the infection or that the same measures which prevent the operations of the known agents also prevent the operation of whatever unknown agents there may be.

In considering the "excessive" typhoid fever rate of Washington it should be borne in mind that climatically Washington is a southern city and that there are few, if any, cities of over 75,000 population south of Washington and east of the Mississippi river which during the two years 1907 and 1908 had typhoid fever rates as low as that of Washington.

AN OUTBREAK OF TYPHOID FEVER AT THE NATIONAL PARK SEMINARY, FOREST GLEN, MD.

In the latter part of March, 1909, an outbreak of typhoid fever occurred at the National Park Seminary, a school for young women located at Forest Glen, Md., a village about nine miles from Washington, D. C. Twenty-four cases developed.

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[2] Lumsden, L. L., and Woodward, William C.: A Milk-borne Outbreak of Typhoid Fever Traced to a Bacillus-Carrier, THE JOURNAL A. M. A., March 6, 1909, lii, 749.

[3] Rosenau, M. J., Lumsden, L. L., and Kastle, J. H.: The Origin and Prevalence of Typhoid Fever in the District of Columbia, Rep. 1, Hyg. Lab. Bull. 35, U. S. P. H. and M.-H. S., Washington, 1907 [Season of 1906]; Rep. 2, Hyg. Lab. Bull. 44 [Season of 1907]; Rep. 3, Hyg. Lab. Bull. 51 [Season of 1908].

The first patient began to have slight prodromal symptoms about March 10 and developed definite symptoms and took to bed on March 19. The last patient began to complain about April 16 and developed definite symptoms and took to bed on April 21. The occurrence of cases by definite onset of symptoms was as follows:

	Cases		Cases
March 19	1	April 9	2
March 24	1	April 10	1
March 25	2	April 12	1
March 29	1	April 13	1
April 3	1	April 14	1
April 4	2	April 15	1
April 5	4	April 21	1
April 6	3		
April 8	1	Total	24

A fairly large proportion of the cases ran a mild course. Only one death occurred, making a fatality rate of 4.17 per cent. In the majority of the cases the diagnosis was confirmed by positive Widal test or by isolation of the typhoid bacillus from the blood, feces or urine.

Some of the students developed the disease at the seminary and others in different sections of the country to which they had gone for the Easter holidays.

Distribution of the Infection.—At the time of the occurrence of the outbreak the population of the seminary consisted of about 400 persons as follows:

Students	270
Officials and instructors	35
Employés and servants—	
White men	15
White women	35
Colored men	45
Total	400

The 24 cases were distributed among the seminary's population as follows: 20 in students, 1 in officials and instructors, and 3 in employés and servants. Thus the distribution of the disease among the three classes was quite general.

The grounds of the seminary cover about sixty acres. The buildings are all of modern construction and are kept in excellent sanitary condition. The four buildings occupied by the students are located in different parts of the grounds. The number of students to each building and the number of cases of typhoid fever which developed among them were as follows:

	No. of students.	No. of cases.
Main building	145	10
Villa	50	7
Junior building	35	3
Senior building	40	0

The three buildings occupied by employés and servants, with the number of occupants and cases to each, were as follows:

	No. of occupants.	No. of cases.
Building for white women	35	2
Building for white men	15	0
Building for colored men	45	1

Again, it was evident that the disease was generally distributed throughout the population regardless of building occupied as place of residence.

Previous Typhoid.—The seminary was established in 1894. No cases of typhoid fever developed among the persons living at the seminary until the beginning of the school term in the fall of 1908. Then two of the students developed definite symptoms of typhoid fever, one sixteen days and the other twenty-three days after arrival at the seminary. As no other cases occurred it was presumed that probably both of these students contracted the infection before coming to the seminary.

In the summer of 1908 three cases developed among the students about three weeks after they had left the seminary and gone for the summer vacation to their homes in different parts of the country. In these cases, also, the infection may have been contracted when the young women were *en route* to or after their arrival at their homes.

Place of Infection.—The first seven cases to occur in the outbreak were all among the students. As the students made trips to Washington about twice a month and on these trips usually took luncheon in the city, the first question to arise was if the infection had been contracted at the seminary or in Washington.

As a member of the typhoid fever board of the Public Health and Marine-Hospital Service engaged in the investigation of the disease in the District of Columbia, I was aware of the rate of prevalence of typhoid fever at that time in Washington and, as the rate among the students even then far exceeded the rate in Washington, and as reference to our case cards showed that there had been no disproportionately large number of cases among persons in Washington who had taken meals at the restaurants frequented by the students, there seemed at the beginning of the investigation little room for doubt that the infection had been contracted at the seminary. The subsequent extent of the outbreak proved the correctness of this impression.

Investigation of the Outbreak.—On March 30 the typhoid fever board of the U. S. Public Health and Marine-Hospital Service was requested by the authorities of the seminary to investigate the outbreak and to suggest corrective measures. This request was approved by the State Board of Health of Maryland, and on April 7 I visited the seminary and began the investigation.

On March 30, when first consulted in regard to the situation, however, I had advised that all milk supplied the institution be boiled or pasteurized previous to use and that the part of the water-supply obtained from a spring stream which, from its description, was considered liable to dangerous pollution, be discontinued unless this water could be boiled previous to use. The milk-supply was boiled on and after March 31; but some of the water from the spring stream was used until April 8.

At the time the investigation was begun the population of the seminary was about 150, about 230 students, and about 20 employés having left the seminary on or about April 3 and gone for the Easter holidays to various parts of the country. Seven cases of typhoid fever were then known to have developed between March 19 and April 6, five of the cases having been among the students who had remained at the seminary and two among those who had gone away.

Possible Sources of Infection.—After a careful inquiry the following possible sources of infection were found to have been common to the cases then known of:

1. Water-supply.
2. Milk-supply.
3. Bacillus-carriers among servants who prepared or handled foods.
4. Fruits and vegetables such as are eaten uncooked and other food-supplies.
5. Ice.

No raw shell-fish had been served at the seminary during the three months previous to the outbreak. So these could be definitely excluded.

Ice.—The ice had been obtained from one of the large factories in Washington and there had been no unusual number of cases among persons in Washington who used ice from that source. So the exclusion of ice as a factor was quite definite.

Food-Supplies.—The fruits and vegetables and other food-supplies had been bought from dealers in the large markets of Washington and Baltimore; and, as there was no unusual occurrence of typhoid fever among other customers of these dealers, the exclusion of the market supplies as a factor was quite definite.

Bacillus-Carriers.—The explosive character of the outbreak argued against a bacillus-carrier being the source of the infection. It was difficult to conceive how infection from a bacillus-carrier could have been disseminated so generally throughout the seminary's population in so short a time unless the bacillus-carrier was among those concerned in preparing or handling the food in the store-rooms or kitchen from which the meals for the whole population were served. Therefore, specimens of feces and urine from the sixteen servants engaged as cooks, store-room men, dish-washers or waiters were obtained and examined bacteriologically at the hygienic laboratory of the Public Health and Marine-Hospital Service. All the specimens were negative for the typhoid bacillus.

Milk-Supply.—The milk-supply during the four years previous to the outbreak had been received from a farm in the neighborhood. The farm is located on a high hill and is quite well isolated. No history of any illness on the farm to account for the infection was obtainable. Of the twelve persons at the farm none had ever had typhoid fever, all used the milk freely, and none had been sick. There had been no recent changes made among those who collected and handled the milk. The water-supply used for washing the milk-cans, etc., was obtained from a well located on the summit of a hill. A sample of water from the well was examined bacteriologically and found to be of good quality. Thus there seemed to be no reason for suspecting the milk-supply.

One of the cases developed 22 days after the milk-supply had been boiled; which fact, though by no means positively excluding the milk, yet is some evidence against it, as the incubation period in cases due to milk-borne infection usually is considerably less than 22 days.

Water-Supply.—The water-supply was obtained from two sources: (*a*) Three bored wells, each about 90 feet in depth, supplied most of the water used for drinking. The water from these wells was examined bacteriologically and found to be of good sanitary quality. (*b*) A small creek running through the seminary grounds supplied the water used for bathing, for washing dishes, and by the students and others frequently for brushing their teeth and sometimes for drinking. This creek had its source in a spring about half a mile above the intake for the seminary's supply.

The creek was found to be quite highly polluted with human excreta. Emptying directly into it about 100 yards below the spring was the sewage from a hospital in which there were thirty to forty persons. Besides this, some of the sewage from about fifteen residences located on the water shed of the creek between the spring and the seminary's intake evidently was washed or drained into the creek. The physician in charge of the hospital stated that there had been no case of suspected typhoid fever in the hospital. In one of the houses on the water shed, however, there had been a man ill with typhoid fever in February; his excreta, after treatment with copper sulphate—probably not sufficient to disinfect them thoroughly—were thrown out into the yard. This yard is on the crest of a hill which forms one shed of the creek. A roadway and a somewhat poorly defined gully run from the side of the yard down the hill to the creek, a distance of about 400 yards. It was evidently possible that some of the excreta from this patient could have been washed by the heavy rains and melting snows which occurred in the latter part of February and early part of March down the hill and into the creek.

Bacteriologic examination of the water from the creek showed it to be highly polluted, the colon bacillus being invariably demonstrated in quantities of 0.1 c.c. Specimens of the water collected on April 9 and on April 19 were examined by the method of Hoffman and Ficker[4] and by plating on Endo's medium for the presence of the typhoid bacillus. The results were negative. The failure to find the typhoid bacillus in the water was, of course, evidence neither for nor against the presence of such organisms in this water at the time the infection was distributed.

Measures Taken to Suppress the Outbreak.—All the evidence seemed to point to the water-supply obtained from the creek as the immediate source of the infection which had caused the outbreak. The infection in the water may have come from the discharges of the typhoid fever patient or of a bacillus-carrier on the water shed. The following recommendations were made with a view of eliminating the creek water as the primary source of the infection and also to prevent the spread of the infection from such secondary sources as had arisen or might arise:

1. Water.—To discontinue immediately the use of water from the suspected creek unless it could be surely and thoroughly boiled previous to use for any purpose. To make arrangements as rapidly as possible for permanently abandoning the creek as a source of water-supply and to pipe the water directly from the spring to the seminary. Before again using the tanks and pipes through which the creek water had been distributed, to scald them out thoroughly with boiling water.

2. Milk.—To pasteurize all milk used in the seminary.

3. Possible Typhoid Patients.—To isolate immediately all persons becoming ill with symptoms suggesting the possibility of typhoid fever, and to disinfect their excreta thoroughly.

4. Recovered Typhoid Patients.—To have bacteriologic examinations made of the stools and urine of the persons who had had typhoid fever to determine their freedom from infection before permitting the return of such persons from hospital or home to the seminary.

5. General Precautions.—To exercise special care in disposing of sewage and garbage; to flush out the sewerage system with a strong solution of crude carbolic acid; to protect the food-supplies from flies and other insects, etc.

6. To extend the Easter holidays until April 27, so that the improvements could be made before the majority of the students returned.

Result of Carrying Out Preventive Measures.—These recommendations were made on April 7, the day of my first visit to the seminary. They were concurred in by the Maryland State Board of Health and were carried out by the seminary officials thoroughly and as rapidly as possible. The water from the creek was shut off on April 8 and the last patient to contract typhoid fever in the course of the outbreak developed definite symptoms on April 21, just thirteen days later.

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[4] Hoffman, W., and Ficker, M.: Neue Methoden des Nachweiss von Typhusbacillen, Hyg. Rundschau, 1904, xiv, 1.

A cement basin has been installed immediately below the springs, and into this the water is piped directly from the springs. Each of the springs is cement-walled. The water from the cement basin is conveyed by an iron pipe to the seminary, a distance of about half a mile.

The school term reopened on April 27 and all the students, with the exception of thirty or forty, returned to the seminary. Under the improved conditions all have remained well.

This outbreak strikingly illustrates (1) the comparative ease with which the problem of a local typhoid outbreak may be solved by careful epidemiologic studies, and (2) the readiness with which such an outbreak may be checked when the local authorities have, and exercise, the power to carry out the proper preventive measures.

ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. DUTTON, STONE AND LUMSDEN

Dr. W. H. Welch, Baltimore: I should like to emphasize the importance of such prolonged, thorough, intensive investigations of the epidemiology of typhoid fever as those reported by the commission, of which Dr. Lumsden is a member, concerning the origin and prevalence of typhoid fever in the District of Columbia in 1906 and 1907. The report of the commission, consisting of Drs. Reed, Vaughan and Shakespeare, appointed to investigate the typhoid fever so appallingly prevalent in our camps during the Spanish-American War aroused attention to the importance of contact and of other sources of infection than the water in the spread of this disease, and the painstaking study of the typhoid fever of the city of Washington has still further emphasized the lesson that in the past we have often been too hasty in attributing the epidemic prevalence of typhoid exclusively to the drinking-water. The experience of Washington is particularly instructive, inasmuch as it was generally assumed before the introduction of central sand filtration in the latter part of 1905 that the Potomac River water was contaminated and was the source of the large amount of typhoid in that city. Despite an apparently admirable system of filtration, the amount of typhoid fever continued high during the summer months of 1906 and to a less extent of 1907. The evidence is strong, even if not absolutely convincing, that the drinking water at present plays no important part in the conveyance of typhoid fever in Washington, and the probability is that it never has been a significant factor there in propagating the disease, despite the almost universal professional opinion to the contrary in past years.

The experience in Washington is probably not exceptional, and it indicates the need of much more careful and detailed study of the conditions determining the occurrence of typhoid in American cities than has hitherto been customary. We should not make the drinking-water responsible for the disease without conclusive evidence. Of course, in many instances such evidence has been presented, and there seems no doubt that a large amount of the typhoid of Pittsburg, Philadelphia and some other cities is water-borne.

Although contaminated milk as a source of infection has long been known, the importance of this factor is not, I think, as yet sufficiently realized. Hitherto attention has been especially directed to explosive outbreaks occurring in the route of particular milk dealers, but there is evidence that the milk may be responsible for not a small percentage of the class of cases hitherto deemed explicable only on the assumption of a water-borne infection, that is, of the scattered and more or less uniformly distributed cases in a city, where the relation to the milk supply is not so immediately apparent. We need protection from the many and peculiar dangers of infection from the white streams of milk which course through our cities quite as much as from the risks of contaminated water. Recent investigations have brought to the front with ever-increasing force contact or the more or less direct conveyance of the typhoid bacillus from person to person as an important mode of propagation of this disease. It is certainly disturbing to learn that the human carriers and distributors of the bacillus are not merely patients in the febrile stage of the disease but are also those incubating the disease as well as persons during convalescence or after recovery, it may be even individuals in health without a history of a previous attack of the fever. It is apparent that the occurrence of multiple cases of typhoid in a household and the demonstration of contact with a typhoid patient afford no accurate measure of the extent of danger from contact, and that the determination of the rôle played by this factor in spreading the disease is often a matter of great difficulty and requires unusually patient and careful search. Under these circumstances it is significant that about 19 per cent. of the typhoid cases in Washington in the summer of 1907 were attributed to contact. In considering the manifold possibilities of conveyance of typhoid germs we should not lose sight of the fact that the primary source of the bacilli is always from human beings, and that every effort should be made to prevent the escape of living typhoid germs from this source into the various vehicles of contagion. In conclusion, I would urge the need for other cities of such painstaking studies by skilled investigators of the modes of conveyance of typhoid fever as those conducted during the past two years in the city of Washington, some of the results of which have been presented to us by Dr. Lumsden.

General George M. Sternberg, U. S. Army: Dr. Lumsden did not refer to one condition in Washington which I think accounts for many of the unexplained cases. In Washington we have a very good water supply and a very good system of sewers, but the sewer system is not complete. We still have a large number of box privies in the alleys and in out-of-the-way places. We have a large colored population living in insanitary surroundings. Many of these colored people are scattered during the summer months at seaside resorts. Some of them no doubt after their return develop typhoid. I doubt whether Dr. Lumsden has been able to keep track of all of these important cases in the alleys of the city. We have a good health department but, unfortunately, not a sufficient number of inspectors. Some of the unexplained cases, I believe, are due to the carrying of infectious material by flies from the insanitary alley houses and out-houses often to the better houses which have sewer connections, and are located on streets and avenues, in the vicinity of the hidden alleys. The fly was not referred to by Dr. Lumsden but it was referred to by the first speaker. It seems that our sad experience during the Spanish-American War was necessary to convince the profession in this country of the rôle of the fly in the propagation of typhoid fever. I was convinced of this some years before the Spanish-American War, and in April, 1898, I issued a circular to medical officers of the army pointing out the dangers from insanitary camps, and especially calling attention to the danger of the transmission of typhoid fever by flies. The reader of the first paper seems to have made the discovery for himself. I think perhaps my official circulars were not read so extensively as they might have been, although most of our regular medical officers of experience were well informed on the subject, but when a lot of undisciplined troops are thrown into unprepared camps with insufficient medical officers, the result appears to be inevitable. Even when the chief surgeon is an officer of experience, he finds himself unable to cope with the situation. I fear that we might have the same result if undisciplined troops were again thrown into unprepared camps in preparation for an unexpected war. Now the remedy for this condition of affairs is proper training of volunteer troops, a thoroughly organized medical department, the prompt removal of febrile cases from the camp, and disposal of excreta by cremation whenever practicable. With a moving camp this may not be practicable, but with a moving camp there is less danger. This is one reason why the Japanese troops suffered little from camp diseases during the recent war with Russia. In the Spanish-American War our troops were assembled in camps where they expected to remain but a short time, but the majority of them were never called on to go to Cuba and remained in the camps, awaiting orders, until the camp site was thoroughly infected. One of my recommendations made at the close of the Spanish-American War was that we should have permanent camps with sewers and a pure water supply, and everything necessary for the assembling of troops in case of emergency. So far as I know, this recommendation has not yet been acted on and I fear that if we had another war and a large number of troops were called out the lessons of the Spanish-American War might have to be relearned by the officers, both of the line and of the medical department.

Dr. Henry B. Hemenway, Evanston, Ill.: The greatest obstacle to progress in the control of typhoid has been the early recognition that sometimes typhoid was spread by water. It is familiarly called a water-borne disease. It has been impressed on me very emphatically, of late, that milk is far more liable to give the disease than is water. The typhoid germ, if I am not mistaken, does not thrive in water. In water it is a weakly germ, which cannot so readily multiply; but in milk it may multiply under exactly the same conditions, because it gets more nutriment. The great problem to-day seems to be the control of what is familiarly called the typhoid bacillus-carriers. That is a problem on more than one account. In the first place, a large number of these individuals are not suspected of being bacilli-carriers. There has been no systematic effort on the part of health departments to keep track of every typhoid case until it is known that the patient no longer excretes the typhoid germ. I can recognize the fact that it would be a hardship on the community, and especially upon the individual, if every typhoid patient were kept, as we might say, in quarantine, using that word even in a very broad sense; but it seems to me that certain laws should be passed which would give a supervision of all bacilli-carriers. Diphtheria presents a similar problem. I had an instance within the last six months; the bacillus-carrier, a woman perfectly well and strong, absolutely objected to being restricted. She happened to be a diphtheria carrier. A number of cases of diphtheria were shown in a certain territory occasionally cropping out; and the thing was to find where the infection came from. Finally, it incidentally came to the knowledge of some that there was a particular fruit peddler going through that territory who himself was well but had had a case in his family which was suspiciously like diphtheria. The typhoid carrier is particularly dangerous whenever he comes in contact with any food which others will eat without further cooking. The typhoid carrier should by law be restricted from any employment on milk farms; he should be restricted from employment in a bakery, or in a grocery, or in any such place.

Dr. Juan Guiteras, Havana, Cuba: I have had no special experience with typhoid fever from the point of view of the public health officer. We have little typhoid fever in Havana. Our water supply is excellent, coming direct from abundant springs. The milk used in Cuba is always boiled. No raw milk is ever drunk in Cuba. Perhaps for those two reasons typhoid fever is limited there. The tracing of contact relations in the few cases that we do have in Havana is usually not difficult.

Dr. A. C. Abbott, Philadelphia: Coming from a community in which the average incidences of typhoid fever has been for years approximately 6,000 cases annually, it is not unlikely that some at least of our experiences may prove to be of service. In the beginning, I should like to subscribe to that which has already beeen said by Dr. Welch concerning the instructive work of the Washington board of which Dr. Lumsden is an active member. It has brought out in an impressive manner the complicated nature of the problem of typhoid fever as it effects a community, and has left no doubt in the minds of those familiar with it that no stone should be left unturned in seeking for the causes of endemicity of typhoid fever. It also demonstrates that conclusions drawn for one community may not of necessity be applicable to others. You have heard what has been said concerning Washington. In Philadelphia there is no reasonable room for doubt that our principal trouble lay in the filthy, grossly polluted drinking-water with which our city until very recently was supplied. With the introduction of proper methods of purifying that water, the occurrence of typhoid fever immediately lessened by about 80 per cent., and we believe that with the continuance of the purifying methods and the further extension of the system that this reduction will be still greater reduced. There is no doubt that many cases in the city arise from the use of specifically infected milk, but I would hesitate to form an estimate of the proportion of these cases, for it would be nothing more nor less than guess work. On several occasions we have, it is true, succeeded in tracing to their origins some isolated outbreaks of the fever due to contaminated milk. Two of these are so instructive and worked out with such mathematical percision that I am tempted to relate their main points:

One outbreak occurred in one of the lower wards of the city and involved over fifty persons. Without entering into the details, it will suffice to say that on investigation the milk purchased by these individuals was found to have come from a farm on which about three or four weeks prior to the outbreak there had been in a family of seven, five cases of typhoid fever, the two remaining members, the wife and a little daughter, having charge not only of the patients but likewise preparing the milk for market. The bedpans used by the patients were washed on the back porch immediately over the spring used for rinsing the milk cans. The next outbreak involved a number of students at one of the colleges in Philadelphia. In this instance we found the milk being supplied to have been produced on a farm where inspection showed everything to be in a satisfactory condition. It was, however, handled by a middleman and in looking into affairs at his place we found that the milk was being bottled from the cans by means of a rubber syphon. His two sons sucked the milk up from the can with an ordinary piece of rubber tubing and allowed it to flow into the bottle. One of these sons within a day or two was taken to the hospital ill with typhoid fever, and in less than a week the second was also sent to the hospital with the same disease. That experiences of this kind are to be had in every community I have no doubt.

With the contact cases we have a much more difficult problem. Of course, the obvious contacts we exclude from our consideration but that there is a subtle dissemination of the disease through ways of contact not obvious I have no doubt whatever.

A great difficulty in satisfactorily tracing out completely the dissemination of this disease lies in the almost impossibility of securing uniformly correct histories. It is astonishing how few apparently intelligent people can answer no questions in such a way as to aid you. Many do not seem to have the least recollection of where they have been or what they have done during the incubation period of the disease. Others make statements that are intentionally misleading, I am sure.

Another difficulty that is common to most communties is incorrect diagnosis. We have repeatedly had reports come to our office of persons having typhoid fever at such and such an address. Often in less than a week from the onset of the disease these persons are attending to their ordinary avocations.

Until there is some concerted action concerning the control of water courses the municipal problem of typhoid fever is going to be very largely a water problem.

It is needless for me to mention the variety of other ways in which the disease may be disseminated, such as by insects, by vegetables grown in land fertilized with human manure, by shell-fish taken from polluted waters, etc.

Dr. Liston H. Montgomery, Chicago: Perhaps raw oysters and other shell-fish have something to do with the dissemination of typhoid fever in the cities on the coast. In Chicago the people cannot all afford these luxuries. It is well known that the dissemination of typhoid is due to the house-fly and the fruit, or pomace, fly, roaches, etc. Weeks ago our Commissioner of Health issued a bulletin instructing housewives on the necessity of placing in windows wire screens, so as to prevent flies from entering the house and contaminating the food. In some of the cities, as I understand it, active war has already been begun for the extermination of the house-fly. Bacteriologists who have captured flies in the houses stained these insects, as I understand it, with a brilliant dye and released them, watching the flies afterward by following them and seeing that they reveled in filth boxes, garbage, etc. Later these same flies returned to the houses where they were previously captured and stained; then, before they had time to contaminate food, they were recaptured and their excreta, or contents of their alimentary tract, were investigated and were found to contain the bacteria, not only of typhoid, but of various other diseases.

In one of the larger towns in the East a householder, having recovered from typhoid fever proved to have been contracted, I understand, on account of the polluted stream that went through the town, instituted a lawsuit against the town and, I believe, recovered damages by judgment.

DR. SENECA EGBERT, Philadelphia: One other source of infection has not been mentioned to-day, and I am rather surprised thereat. It is not a proved source, but it seems to me a very possible one. I refer to celery, lettuce and other articles of food which come to us in the fresh, green state. I have in mind three instances which seemed to me to help make that a possibility. One case was that of the small child of one of my colleagues, in whose home I can vouch for extraordinary care as to typhoid infection. The little girl had a serious case of typhoid; and in the minds of her parents the only thing that could have caused it was celery, of which she was very fond and which they used very largely in the household.

Some years ago members of one of the improvement associations in the northern part of Philadelphia came to me and asked my opinion as to the use of night-soil from old privy vaults on the truck farms in their neighborhood. They declared it a common practice of these farmers to use night soil on these farms. I saw an Italian picking watercress from a little stream which was close to the ends of the ties of the railroad track and which could readily have been polluted and infected by a typhoid carrier on a passenger train. So it seems to me entirely possible that a number of cases may occur in this way through infection from such articles of food as are consumed in the fresh, green state and which cannot, so far as I know, be sterilized and made free of the germ, once they are contaminated.

I am glad to testify that Dr. Abbott has been one of the factors in Philadelphia which have brought about that elimination of a large proportion of our typhoid cases and which we are very glad to have eliminated. The sources of the others may continue to puzzle us for some time to come, but must eventually be discovered and eliminated.

This problem is a very complex one, demanding the attention of every sanitarian. For a long time I have felt that it is just as important a problem as tuberculosis; while the incidence and the death rate from typhoid may not be so high as in the case of tuberculosis, I think a crusade against the former carried on with the same vigor and the same widespread effort the country over as that against the latter would result in a much greater diminution in death rate and incidence than the tuberculosis crusade can possibly hope to achieve in anything like the near future.

DR. J. N. HURTY, Indianapolis: Other theoretical sources, and we now think practical sources, of typhoid fever, are public lunch wagons, public fruit stands and candy wagons. My attention was directed to this by a newspaper man. A reporter was taken ill with typhoid fever; and the man who made his rounds, afterward talking on the subject to me, said: "I don't know where he could have gotten it; unless from one of those lunch wagons." Then a policeman who frequently patronized the same lunch wagon was attacked with typhoid. Investigation showed that the lunch man had typhoid in his family; so, of course, there was the source, and it is comparable to the restaurant source.

In regard to the spread of typhoid fever by contact: The Indiana Soldiers' Home at Lafayettte is beautifully situated. The sanitation is very good. There was no typhoid there—had not been for years. The commandant's son came home with typhoid from school. The chief physician of the institution attended him, and presently the disease spread all over the institution. There were 65 cases and 1 death. After a thorough investigation showing the deep well-water to be pure, the sewage perfect, and all that, we found that the physician spread the infection all through that institution. He came down with it himself and was very ill—so ill that he was delirious while the investigation was being made. We asked him what precautions he took after he handled the patient; what precautions he took in regard to washing his hands, and he said he did not take any. "Did you wash your hands?" "Well, sometimes I did and sometimes I did not." In this instance 65 patients were infected by the physician himself; not all of them, of course, but he started the infection. So a physician may be a distributing agent.

DR. HENRY B. HEMENWAY, Evanston, Ill.: I have long been accustomed to use a little coverette on my thermometer, so that the thermometer never touches the patient. It seems to me that is a precaution that might well be used in such cases.

DR. A. W. FREEMAN, Richmond, Va.: We have had in Richmond, and later in Virginia at large, an interesting experience with typhoid. The Richmond investigation was begun independently of the Washington work, and the results were in perfect accord with those arrived at in Washington. The parallelism between the typhoid rates of the two cities, as has been pointed out elsewhere, is remarkable. We were able, also, to account for about the same percentage of cases, leaving the larger number of cases without explanation. In July, 1908, the newly reorganized state department of health began a similar investigation of the small, local outbreaks in Virginia, believing that these, offering less complicated situations than the outbreaks prevailing in the larger cities, would throw more light on the problem. The results of this investigation were varied. Of about thirty outbreaks investigated a few were apparently caused by water, but by far the larger number of cases in the smaller towns could be traced to the carrying of the infection from house to house by food, or by the visits of neighbors entering the sick-room. Even the most casual contact might, apparently, be responsible for the spread of the disease.

This year we hope to investigate the true rural typhoid; typhoid on the farm, where the whole process of spread can be seen plainly. On the average Virginia farm you can follow the movements of every member of the family for weeks and even months prior to the outbreak, and we have already followed out a number of these cases, where the disease could be traced from farm to farm, over long distances. We believe that this type of the disease offers a particularly inviting field for investigation. We believe strongly in the contact idea as applied to typhoid in Virginia. We have no opinions to offer as to typhoid in any other locality, but so far as our present experience goes we do not believe the farm well to be responsible for any great number of cases. It is the contact of the well person with the patient that results in the spread of the disease in Virginia.

DR. F. F. RUSSELL, U. S. Army: There is another way to prevent typhoid fever besides tracing down the source of infection and destroying that source, and that is, by vaccination, or inoculation or immunization of a body of men. While this is not a practicable matter for civil life within any large limits, it is within the military service, and the surgeon-general of the army has now started to immunize large bodies of troops against typhoid. The British and German campaigns against typhoid fever (which are conducted as our own, with the idea of preventing infection from every possible source and without neglecting any other means which will help us in stamping out typhoid) have shown that vaccination against typhoid undoubtedly does protect and that it protects for a considerable length of time. The figures of the British (which have recently been published and which have been mentioned by Dr. Stone) show very roughly that among those men who have been vaccinated there is only one case of typhoid to every ten cases among men equally exposed who have not been vaccinated. Now that result is sufficient to encourage us in the use of vaccination among all persons who are to be exposed to typhoid. Going into a camp is equivalent to going into an endemic area, for typhoid prevails everywhere in the United States; and we cannot organize a camp or assemble any large number of men without having typhoid introduced inside of three weeks. The disease will spread by contact, almost altogether by contact, and contact in a camp is much more intimate than in civil life, so that the dangers which are present everywhere are present in a much greater degree in camp. We feel that not only must we provide pure water and pure food, and destroy the excreta, etc., of everyone, but we must also vaccinate everyone who can be persuaded to take it as an additional means of reducing the morbidity and mortality from this disease.

Dr. James B. Bullitt, University, Miss.: In my town (population 2,500), cisterns, shallow wells and privies were in use until about ten years ago. On the installation of a sewerage system and of a water supply from artesian wells, typhoid, which had been fearfully prevalent, practically disappeared. There is one block, however, occupied for the most part by the better class of people, where the configuration of the ground prevented junction with the main sewers. A short sewer was therefore laid emptying into a little ravine only a few rods away. The water supply is the same as for the rest of the town. Here several cases of typhoid have occurred every year, though the rest of the town has remained practically free. As there have been several intervals of eight or ten months between consecutive cases, it seems unlikely that each crop has developed from those immediately preceding. It is my opinion that some bacillus-carrier, whom we have been unable to identify, lives on that street and intermittently infects the ravine, from which doubtless flies and other insects carry the infection to the neighboring houses.

Dr. Gardner T. Swartz, Providence, R. I.: In Providence, when an epidemic breaks out in a quarter, the health officer is called on to put his finger on the source; if he cannot he is not a master and cannot hold his position. The public is now becoming informed of these matters and the possibilities that we have of determining the various sources of this disease. We must encourage our departments, both state and national, in the promulgation of this investigation work, and urge that the laboratories must be so situated, and of such convenient distances, that we shall be able to utilize them for carrying out the study of this disease, concerning which on many occasions we must acknowledge our impotence.

Dr. Martin Friedrich, Cleveland, Ohio: These discoveries of new carriers of typhoid fever germs are not only interesting but of great importance but let us remember that in the main typhoid fever is a water-borne disease.

Dr. H. M. Bracken, St. Paul, Minn.: We had a beautiful opportunity to study typhoid in Minnesota in a little town where we told them they were going to have it; and we got the first case. A short time ago my attention was directed to a farm where the residents were man and wife, and where every employee for the last seven or eight years who has come onto that farm has had typhoid fever. I asked if either of the members of the family had had the disease and I was told by the physician no; but when we sent someone to find out, we found that the wife had had typhoid several years ago.

Dr. W. Forest Dutton, Walkers Mills, Pa.: When I prepared this paper I expected critical discussion, and earnestly desired it, for my own personal edification more than anything else. The technic was not different from that used by bacteriologists. Precautions were taken to eliminate other than the *Bacillus typhosus* of Eberth. When I say typhoid, I mean, distinctly and absolutely, the bacillus of Eberth and not paratyphoid, colon, or the paracolon bacillus nor intermediate species. I used culture media most suitable to the individual case. It is truly a difficult task requiring ofttimes months to secure positive results. It has been known for years that typhoid bacilli reach the blood through other than ordinary channels. In the first two weeks of typhoid there is a marked blood infection; the bacilli occur in the tissues in clumps, and the roseolæ contain bacilli. Bacilli are frequently found in urine, feces, bile, and pus, years after primary infection. Thence, it can easily be inferred how the infection is accessible to the insects referred to in my paper. The proofs that have been furnished by Grünbaum and Sanarelli prove the specific character of typhoid.

In reference to typhoid commissions, I would say that a great deal has been accomplished by their efforts, yet salient etiologic factors are frequently overlooked. A general survey is made of epidemic and endemic outbreaks of typhoid, and general data are accumulated. The fact remains, however, that a commission cannot study individual cases as affecting rural districts, and this, perhaps, accounts for failure to learn the source of infection.

In closing, I should like to say that vaccination against typhoid will, when the method is perfected, prove one of the greatest boons to the human race, second only to vaccination against smallpox.

Dr. L. L. Lumsden, Washington, D. C.: It is a great pleasure to see such a keen interest taken in the typhoid problem. The many valuable suggestions made in the course of the discussion I am sure will aid us in our future work in Washington. At the beginning of our studies in Washington we suspected that there might be many cases of typhoid which were not reported and which might constitute some of the undiscovered links in the chain of transmission of the infection by contact. In the summer of 1908 we conducted a house-to-house canvass in 32 city blocks having a population of about 6,000. The results of this canvass incline us to believe that in Washington more cases of typhoid are reported than exist in a clinical sense.

As Dr. Welch remarked, I probably did not sufficiently emphasize the milk problem. The pronounced milk outbreaks in Washington may be regarded somewhat as acute exacerbations of a chronic affection. A number of scattering cases doubtless are due to milk-borne infection which cannot be traced. In our reports charts are presented which show the occurrence of typhoid cases among customers of different dairymen proportionate to amount of milk sold. One dairyman who sterilizes bottles and cans and pasteurizes milk has had among his customers a consistently low typhoid rate. This is significant and perhaps indicates what would be the result of the pasteurization of Washington's general milk supply.

There are now in the District of Columbia only about 3,000 privies. We expect to find a higher rate of prevalence of typhoid in the sections largely provided with privies; but we were disappointed and we have not been able to say as harsh things about privies as we had hoped. It is true that there are in Washington insanitary alleys having a crowded negro population, but we have found that the prevalence of typhoid in these alleys is no greater than in the better sections of the city. We have given considerable attention to flies. No preponderance of cases has been found among persons living in unscreened houses and among those whose occupations exposed them unduly to flies. Last summer Dr. L. O. Howard, at our request, made a study to determine the seasonal abundance of flies in Washington. The lack of parallelism between the curve showing the seasonal abundance of flies and that showing the seasonal prevalence of typhoid opposes the view that flies are a major factor in the transmission of typhoid infection in Washington.

It is encouraging to hear from Dr. Guiteras that there is very little typhoid in Havana. Havana is distinctly a tropical city, having the year round about the same climate that Washington has during the summer, Washington's typhoid season. It seems that, regardless of climate, localities having good water, good milk, good sewage disposal and in which typhoid patients are properly cared for have as a rule little or no typhoid.

Publicity in Tuberculosis.—Publicity through the press is being utilized with good effect in the fight against tuberculosis by the Board of Health of Salem, Mass. A series of articles has been prepared for insertion in the newspapers which aim to give information that will be of benefit to the people in general. The objects of the articles are to show the great frequency of tuberculosis and the importance of infection, bad habits and insanitary surroundings as compared with heredity, to arouse public officials to a sense of duty, to instruct the well as much as the sick, and paint the consumptive's future as bright as possible, avoiding extreme opinions and interference with the proper field of the physician. The articles are supplemented by a skillfully managed question box in which many of the popular fallacies regarding the disease and plausible objections to the statements made in the articles are corrected and refuted. The method of the Salem board is worthy of the attention of other health authorities and has received the commendation of a considerable number. Such articles must be carefully managed to avoid exciting undue alarm, but the hope of cure held out to sufferers from the disease and the sensible stand taken in these articles as to danger from contagion is likely to avoid such a result.

A CONVENIENT METHOD FOR DETERMINING CALORIC VALUES OF FORMULAS BASED ON PERCENTAGE FEEDING OF INFANTS *

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At present there are two schools in the pediatric world more or less opposed to each other on the subject of infant feeding. The German school almost universally supports the caloric, while the American school largely upholds the percentage system. It is apparent to all that each school must have its good points when supported by such representative men as Heubner, Camerer, Rotch, and Holt.

While one pediatrician using the percentage system of feeding occasionally calculates the caloric value of what he prescribes—not a rare procedure — another man can be seen following the German idea, who calculates regularly the calories considered essential, but seldom, if ever, knows what kind of percentage strength of food he is giving. Both schools support their side of the question stoutly and each seems to me rather slow to see any good in the other. If these can be combined, the good of each will strengthen the value of the other. Heubner, Camerer and others of their school have said that they have successfully fed children by using simple dilutions of milk, letting the caloric value of the food not exceed from 100 to 120 calories per kilogram per body weight and gradually reducing this to 80 calories at the end of the first year. Granting that Heubner's caloric value of milks, diluted to suit the digestion, is correct and is important for successful feeding, why is it not important also from a scientific as well as a practical point of view to have these same dilutions calculated in percentages of fat, sugar and proteid?

TABLE OF CALORIC VALUES USED IN INFANT FEEDING

(Values are estimated according to percentage strength of constituent and the amount of food.)

Am't.of Food in Ounces.	Per-centages:-(%)			1.			2.			3.	
Am't.of Food in Cubic Cent.		1.	2.	3.	4.	5..	6.	7.	8	9.	10.
	4.00	0.3720	0.7440	1.1160	1.4880	1.8600	2.2320	2.6040	2.9760	3.3480	3.7200
	.75	0.3487	0.6975	1.0462	1.3950	1.7437	2.0925	2.4412	2.7900	3.1387	3.4875
	.50	0.3255	0.6510	0.9765	1.3020	1.6275	1.9530	2.2785	2.6040	2.9295	3.2550
	.25	0.3022	0.6045	0.9067	1.2090	1.5112	1.8135	2.1157	2.4180	2.7202	3.0225
	3.00	0.2790	0.5580	0.8370	1.1160	1.3950	1.6740	1.9530	2.2320	2.5110	2.7900
	.75	0.2557	0.5115	0.7672	1.0230	1.2787	1.5345	1.7902	2.0460	2.3017	2.5575
	.50	0.2325	0.4650	0.6975	0.9300	1.1625	1.3950	1.6275	1.8600	2.0925	2.3250
FATS-	.25	0.2092	0.4185	0.6277	0.8370	1.0462	1.2555	1.4647	1.6740	1.8832	2.0925
	2.00	0.1860	0.3720	0.5580	0.7440	0.9300	1.1160	1.3020	1.4880	1.6740	1.8600
	.75	0.1627	0.3255	0.4882	0.6510	0.8137	0.9765	1.1392	1.3020	1.4647	1.6275
	.50	0.1395	0.2790	0.4185	0.5580	0.6975	0.8370	0.9765	1.1160	1.2555	1.3950
	.25	0.1162	0.2325	0.3487	0.4650	0.5812	0.6975	0.8137	0.9300	1.0462	1 1625
	1.00	0.0930	0.1860	0.2790	0.3720	0.4650	0.5580	0.6510	0.7440	0.8370	0.9300
	.75	0.0697	0.1395	0.2092	0.2790	0.3487	0.4185	0.4882	0.5580	0.6277	0.6975
	.50	0.0465	0.0930	0.1395	0.1860	0.2325	0.2790	0.3255	0.3720	0.4185	0.4650
	.25	0.0232	0.0465	0.0697	0.0930	0.1162	0.1395	0.1627	0.1860	0.2092	0.2325
	7.00	0.2870	0.5740	0.8610	1.1480	1.4350	1.7220	2.0090	2.2960	2.5830	2.8700
	.50	0.2665	0.5330	0.7995	1.0660	1.3325	1.5990	1.8655	2.1320	2.3985	2.6650
	6.00	0.2460	0.4920	0.7380	0.9840	1.2300	1.4750	1.7220	1.9680	2.2140	2.4600
	.50	0.2255	0.4510	0.6765	0.9020	1.1275	1.3530	1.5785	1.8040	2.0295	2.2550
	5.00	0.2050	0.4100	0.6150	0.8200	1.0250	1.2300	1.4350	1.6400	1.8450	2.0500
	.50	0.1845	0.3690	0.5535	0.7380	0.9225	1.1070	1.2915	1.4760	1.6605	1.8450
	4.00	0.1640	0.3280	0.4920	0.6560	0.8200	0.9840	1.1480	1.3120	1.4760	1.6400
SUGARS-	.50	0.1435	0.2870	0.4305	0.5740	0.7175	0.8610	1.0045	1.1480	1.2915	1.4350
	3.00	0.1230	0.2460	0.3690	0.4920	0.6150	0.7380	0.8610	0.9840	1.1070	1.2300
	.75	0.1127	0.2255	0.3382	0.4510	0.5637	0.6765	0.7892	0.9020	1.0147	1.1275
	.50	0.1025	0.2050	0.3075	0.4100	0.5125	0.6150	0.7175	0.8200	0.9225	0.0250
	.25	0.0922	0.1845	0.2767	0.3690	0.4612	0.5535	0.6457	0.7380	0.8302	0.9225
	2.00	0.0820	0.1640	0.2460	0.3280	0.4100	0.4920	0.5740	0.6560	0.7380	0.8200
PROTEIDS-	.75	0.0717	0.1435	0.2152	0.2870	0.3587	0.4305	0.5022	0.5740	0.6457	0.7175
	.50	0.0615	0.1230	0.1845	0.2460	0.3075	0.3690	0.4305	0.4920	0.5535	0.6150
	.25	0.0512	0.1025	0.1537	0.2050	0.2562	0.3075	0.3587	0.4100	0.4612	0.5125
	1.00	0.0410	0.0820	0.1230	0.1640	0.2050	0.2460	0.2870	0.3280	0.3690	0.4100
	.75	0.0307	0.0615	0.0922	0.1230	0.1537	0.1845	0.2152	0.2460	0.2767	0.3075
	.50	0.0205	0.0410	0.0615	0.0820	0.1025	0.1230	0.1435	0.1640	0.1845	0.2050
	.25	0.0102	0.0205	0.0307	0.0410	0.0512	0.0615	0.0717	0.0820	0.0922	0.1025

Percentages of fat, carbohydrates, proteids, water, solids, etc., to a certain extent, are, we know, taken into consideration when feeding delicate digestions among adults. Why is it, then, not far more important to consider the same things when using food in the feeding of infants? We hear from Czerny, Camerer, Salge, Holt, and others that fats are not easily borne by the child and are frequently seen to be the cause of acute and chronic indigestion. If this is true, and I am fairly convinced of the fact, a knowledge of the percentages of ingredients in the milk formulas, etc., will be of great practical value.

I shall not enter into the much discussed fields of the digestibility of fats, sugars and proteids for infants, or their management in home modification or laboratory prescriptions. I merely wish to urge a more constant trial of the use of the two systems, using them in the proper relation one to the other. The percentage system, no matter how calculated, prevents, if properly used, the over-feeding of fat, and holds one within the conservative limits of sugar and proteid, while the caloric value of these same percentages prevents one from overcharging the intestine and putting too much work on the digestion of the infant.

My object in writing this paper is, first, to urge a more thorough trial of these combined methods, and, second, to offer to the medical profession a plan, other than the ordinary, as a possible aid in computing the calories of any formula of infant feeding based on the percentage system.

This plan depends on a table of caloric values for the different percentages of fat, sugar and proteid used in infant feeding. These values are calculated for each gradual increase of strength in percentage, and of the quantity of food. These same values are placed side by

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

side in columns and rows, so that the columns represent values of different percentage ingredients of the same quantity, while the rows represent the same per cent. strength of ingredient of different quantities. (For the former read up and down, for the latter read horizontally.) The fats differing in caloric value from the sugars or proteids (9.3 Cal. to 4.1 Cal.) are worked out by themselves. The sugars and proteids of similar energy power (4.1 Cal.) are estimated together.

The increase is 0.25 per cent., as is shown in the left-hand column. This is used throughout the table for fats, sugars and proteids, it being practically about the smallest and at the same time the most exact per cent. possible to be used in home modification and laboratory formulas. In the combined sugar and proteid values the strength will be seen to increase above 4 per cent. by 0.5. The limits of percentage for fat, sugar and proteid are taken from the general reading and practice of American and foreign pediatrists. The fats are estimated from 0.25 to 4 per cent., the 0.25 per cent. representing the lowest practical strength, while the 4 per cent. represents the usual strength in "whole milk" of Holstein and Ayrshire cattle, which is further generally agreed to be the safety point above which tolerance and indigestion, due to fats, seem to appear most often. The upper limit of sugar and proteid is that which is generally accepted as essential for ordinary use, that is, 7 per cent. in sugars and 3.5 per cent. for proteids.

The increase in quantity is shown in the two top rows of the table. Here, reading from left to right in the second row, are shown the gradual quantitative increase of food constituents from 1 to 10 cubic centimeters. The decimal system, although not much used in this country, is rapidly advancing. It has seemed to me the most natural and the easiest one to use when dealing with percentages. By merely changing the point to the right one, two or three places in any column the value of ten, one hundred and one thousand times the amount of the ingredient can be instantly seen (i. e., take "3 c.c." column; by moving the point one place, we have the value of 30 c.c., two places, the value of 300 c.c., and with three places, the value of 3,000 c.c.). For those who wish to calculate in ounces, the top row of figures has been added. Here we rely on the fact that one ounce practically equals 30 cubic centimeters, two ounces 60 cubic centimeters, and three ounces 90 cubic centimeters. With this knowledge, the values of one, two and three ounces can be estimated by following down the "3, 6 and 9 c.c." columns and changing the decimal point one place. For 10, 20 and 30 ounces merely change the point two places.

The method for computing the table is simple. The energy values for one cubic centimeter of 0.25 per cent. of fat, sugar and proteid are calculated. The resulting figures are used as factors or bases, whence by mere addition or multiplication all other values are easily worked out. One gram of fat possesses 9.3 calories of energy, and is practically equivalent to one cubic centimeter of fat; then one cubic centimeter of fat has 9.3 calories of energy. For example, if one cubic centimeter of 0.25 per cent. fat has 0.02325 calories, then 2 cubic centimeters will have just twice that amount, or 0.04650 calories; and, again, if one cubic centimeter of 0.25 per cent. fat has 0.2325 calories, then one cubic centimter of 0.50 per cent. fat will have twice the number of calories as are in one cubic centimeter of 0.25 per cent.

THE METHOD OF USE

When using percentages in feeding, the caloric value is ordinarily calculated by multiplication of the percentage of fat, sugar or proteid by the respective value of one gram of each ingredient, and then by the total amount of food in the twenty-four hours. To complete this problem, these three values must be added together to procure the actual daily energy of the food. For example:

Formula: Fat, 3 per cent.; sugar, 6 per cent.; proteid, 1 per cent. Total amount, 300 c.c.

Three hundred cubic centimeters of 3 per cent. fat, 300 x .03 (3%) x 9.3 cal. (energy value of 1 c.c. fat) gives 83.7 calories.

Three hundred cubic centimeters of 6 per cent. sugar, 300 x .06 (6%) x 4.1 calories (energy value of 1 c.c. sugar) gives 73.8 calories.

Three hundred cubic centimeters, of 1 per cent. proteid, 300 x .01 (1%) x 4.1 calories (energy value of 1 c.c. proteid) gives 12.3 calories.

Total, 169.8 calories.

This requires two multiplications in each ingredient, or a total of six. By referring to the table it is seen that by knowing the percentage of fat, sugar and proteid in the food, as well as the total amount, these same values are quickly found and the multiplications are done away with. The addition in both methods is and always will be necessary.

Read down the respective percentage column until the desired percentage is found, follow this row until the amount is reached, then read. Add these values and the total caloric value of the food results.

Formula: Fat, 3 per cent.; sugar, 6 per cent.; proteid, 1 per cent. Total amount, 300 c.c.

Look down the percentage column until 3 per cent. is reached, read now to the right until "3 c.c." column is seen, as the total amount is 300 c.c.; move the decimal point two places, and we have 83.7 calories for 300 c.c. of 3 per cent. fat. This same process is done in the percentage columns of sugar and proteid and we quickly find the calories of sugar to be 73.8 and those of proteid to be 12.3.

Variations in the above example appear when the total amount becomes an uneven quantity, 330 cubic centimeters, or 440 cubic centimeters. Here the problem is slightly increased. We find the value for 300 cubic centimeters, and for 30 cubic centimeters, by merely changing the decimal point; the addition of these two gives the total. When the total quantity is in ounces, we use the ounce columns and proceed as if using cubic centimeters, changing the point as occasion demands, and when necessary multiples of the same (i. e., for 6 ounces, twice the value of 3 ounces, for 4 twice that for 2 ounces, etc.).

All tables and formulas in infant feeding only add trouble to this already most complicated subject, unless they fulfill certain requirements. The method of formation must be clearly understood and the method of using the same, while both must be simple. Unless such tests can be applied to any such scheme, difficulty arises, and the table or formula is worse than useless. I have attempted to show as shortly and as concisely as possible how this plan was worked out and is used. It is simple, I think, to understand and to use; therefore, I hope that it may be of some service to the profession and possibly aid in the fusion of the two theories of the foreign and American schools.

70 Bay State Road.

Tracheotomy in Cancer of Larynx.—Tracheotomy cannot be considered as a curative operation. It serves only to relieve the stenosis of the larynx caused by the cancer, or comes into play as a preliminary to the radical external operation.—O. Chiari, in *Annals of Otology, Rhinology and Laryngology.*

HEUBNER'S SYSTEM OF INFANT FEEDING EXPRESSED IN CALORIES AND ENERGY UNITS*

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CHICAGO

No food, no growth.

After the fourth week of life in a qualitative, and after the sixth week in a quantitative manner, a certain normal feeding has been established for the child which allows of an average estimation in quantity and quality of food taken. The single and daily feedings of the infant will closely approximate the averages fixed.

After the sixth week the child requires from 600 to 900 (from 20 to 30 oz.) grammes daily and after the fourth month from 1,000 to 1,100 grammes (33 to 36 oz.); these amounts are seldom exceeded. These figures have been established by weighing a large number of children daily for months and represent average values. According to the observations of Dr. Feer the amount of food taken daily by one individual infant varies greatly; in this the child resembles an adult. These daily variations in feeding of infants must be remembered when we take up artificial feedings. The number of daily feedings in the cases observed and controlled were not frequent. The first three or four weeks of life the infant was fed every two hours; after this from six to seven times daily. After the fourth month six daily feedings were given, and in many cases only five.

The quantity taken at each meal varies from 50 to 200 (1⅔ to 6½ oz.) grammes. The time taken for a meal varies in individual cases from fifteen minutes to one-half hour. After the third week there is very little variation in the chemical quality of the mother's milk. The constituents are not so fixed as in a mineral water; fat varies greatly at the different feedings. Frequent examinations of milk obtained in sufficient quantity of the same breast, repeated for days, will show a surprising sameness. Further, the examination of milk from many different mothers also agrees so nearly that an average has been established.

In 100 grammes (3 oz.) of mother's milk the infant gets according to the form established:

Proteids.	Fats.	Sugar.	Salts.	Unknown organic substance.
(13½-15 grs.)	(50-60 grs.)	(90-105 grs.)	(2.85 grs.)	(6 grs.)
0.9-1.0%	3.5-4.0%	6.7-7.0%	0.19%	0.6%

When the milk reaches the stomach it is rapidly changed. The casein is precipitated, but, as there is but little casein in mother's milk, the precipitation is fine and flocculent.

Casein and salts remove the acid of stomach secretions and it requires from 1 to 1½ hours before it reappears. According to von Mehring, whenever the intestines are filled up, no more food is allowed to escape the stomach, and thus the bowels are guarded against overflow and overwork.

All foods entering the body are acted on by the infant's organs and are disposed of in various ways. Much of it escapes through urine, fecal matter, exhalations from lungs and perspiration. Some of it, however, is added to the body as an increase. These processes are expressed in terms by Rubner as *Energie-Wechsel* (bodily activity) and *Energie-Bilanz* (increase). All duties performed by the body inclusive of adding to the growth are expressed by the term *Energie*.

The energy of a given food is expressed by the heat given off in its burning. The balance of food remaining in the body can be expressed in calories by deducting the amount lost through fecal matter, urine, etc., from the amount entering the body. Food given can be expressed in calories and is of greater significance than if expressed by weights and measures. It can be stated, *a priori,* that in a healthy infant of a steady, regular growth, for equal units of bodily weight we have equal working power in each individual case.

In this case the introduction of food or energy must be regular and of given quantity. By carefully examining a considerable number of normal thriving infants, being able to control them in every respect, so as to establish a proper basis for calculation, Heubner was enabled to express the energy power of the food required by the infants.

The daily amount of food required by a normal thriving infant expressed in calories per kilo (about two pounds weight) of infant is called energy quotient. A more thorough analysis of these infants showed that from the end of the third week to the end of the sixth month the energy quotient is 100 grammes; that is, for every kilo (2 lbs.) weight we require 100 grammes food (3⅓ oz.).

In the succeeding months to the end of the first year there was a gradual reduction in energy quotients. The amount of work required of the infants simply to preserve life—that is, energy power of the food taken minus the energy power of fecal matter, urine and growth—appears in the first six months to equal 70 calories per kilo weight daily. This has been proved by von Feer, Beuthner, Nordheim, and particularly Schlossmann, through various experiments to be approximately right for the first three months at least. Schlossmann is inclined to place the energy quotient to 110 grammes; this determination is based on milk obtained from wet nurses and reduced to calories. Czerny and Kellar have not succeeded and point out what they consider inaccuracies.

It will require further study and experience to prove whether they are inaccuracies or not. Not only in case of breast-fed infants is the food thus to be expressed, but in artificial feeding, the food can be expressed in calories and by learning the caloric value of the several foods used in artificial feeding we can easily compute or compound a food for an infant.

According to Rubner:

	Calories.
Mother's milk contains in 1 liter (dependent on fat contents)	614-724
Cows' milk, per liter	690
Two-thirds milk, per liter	480
One-half milk, (½) 10% sugar solution, per liter	500
Buttermilk (according to de Jager)	698
Liebig's soup (according to Kellar)	808
Allenburg's milk mixture	546
Asses' milk (Dresden)	502

One needs to know the weight of the infant to determine the quantity of the above foods to be given to satisfy its energy requirements.

An infant weighing 5 kilos would require 500 calories cow's milk; 700 calories to 1 liter. Therefore, we would require 5/7 of 1 liter of cow's milk or buttermilk; 1 liter ⅔ milk; ⅝ liter of Liebig's soup, etc. Of course, the above calculations premise that artificial food is as good as mother's milk. This we know is not so by a good deal.

A high percentage of nitrogenous contents in food for infants is not economical because a low percentage answers all demands. Further, nitrogenous food requires good digestive organs. The different proportions of casein and albumin in cow's milk and mother's milk are well explained in all text-books and require no elucidation here. The differences, however, have greater theoretical value than a practical one. The differentiation and characterization of the several nitrogenous compounds in the organic fluids have not reached that stage which would allow us to come to any definite conclusions.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

What is of greater importance is the presence in mother's milk of substances rich in phosphorus, as nuclein and lecithin, which are not found as well represented in cow's milk. In fact, there are more unknown substances which contain nitrogen in mother's milk than in animal milk.

Based on these chemical differences, as well as on the result of experiments, digesting nitrogenous compounds in test tubes, both of cow's milk and mother's milk, the conclusion was reached by different savants and so promulgated that cow's milk was hard to digest owing to the nitrogenous properties. This doctrine, however, has been disproved by experiments on infants. In fact, it was proved that the nitrogenous compounds, those of cow's milk as well, were easily and thoroughly digested (about 5.5 per cent. loss), and when not made use of in the body were chemically changed and passed in the urine.

This doctrine would not have received so much consideration and been so persistently believed, but the daily experiences seemed to prove it. A child could digest diluted milk quite well, but not whole milk. In whole cow's milk the nitrogenous compounds are far in excess of the same elements in mother's milk, while the fats and sugar are of about the same percentage; therefore, the nitrogenous bodies are the indigestible ones. This conclusion is probably right, but the explanation of the conclusion is interpolated and this is not right. That is, the conclusion is not based on rigid experimentation; it is not proved. Rubner and Heubner were enabled to study carefully the effects of artificial feeding—cow's milk, on two children, a seven months old child and a three months old sickly child—and from their observations and studies obtained a clearer idea of the digestion of nitrogenous compounds. What is the effect on an infant of a nitrogenous diet much richer than a breast-fed child obtains? It does not increase the growth of the child to any appreciable amount, but we have an increased destruction of nitrogenous compounds, and if we continue for some time this rich nitrogenous feeding we influence the metabolism of the body. The increased metabolic processes in the body increases the heat production. This was ascertained in the two children to be from 9 to 15 degrees daily more than in a breast-fed child. This overproduction of heat must be got rid of, and in the children examined it was accomplished through increased perspiration and exhalation from the lungs. This all means increased work for the infants.

The digestion and absorption of this richer food, the destruction and the disposition of the increased heat, all caused extra work for the internal organs without any benefit to the infant, no increase in growth or in repair of worn-out tissue. The increase of albumin in the cells of the body is not accelerated by a too rich nitrogenous diet, but is interfered with.

By continuing this rich nitrogenous diet, or rather, overfeeding, we injure the entire organism. This manifests itself first by loss of appetite. Observation has shown, particularly in delicate children, that it is always better to dilute cow's milk.

This dilution even during the first month of a full term baby does not need to be more than will reduce the proteids of cow's milk to equal the proteids in mother's milk. That is one part of milk and two parts of water. This mixture contains 0.9 to 1.0 per cent. proteids. Of this mixture the same amount is to be given as the child obtains from the breast when nursing, because if more were to be given the reason for diluting would be negatived.

If we were to give two or three times as much of this mixture as the child obtains when nursing we would give two or three times as much proteids and inorganic salts as we had determined, and also an unnecessary amount of water.

During the first month we give of this one-third mixture 400 c.c., at later periods of growth 600 or 700. c.c., in 5 or 6 meals daily if we wish to keep the amount of proteid equal to that of mother's milk.

It is clear, however, that this mixture has not the nutritive value of mother's milk volume for volume, because the non-nitrogenous bodies which are about equal in both fluids normally are reduced two-thirds in cow's milk.

This is the great evil in diluting cow's milk, but one that can not easily be remedied. Milk sugar, of course, can be added to 7 per cent., equal to the amount in mother's milk.

These differences are not the only ones resulting from diluting cow's milk. The organic substances containing phophorus, nuclein and lecithin, which whole cow's milk contains in less quantities than mother's milk, are still further reduced. *The physical properties of this* new mixture will be unfavorably influenced. It has been determined by Hans Köppes that cow's milk, notwithstanding its higher percentage of proteids and inorganic salts, has about the same molecular concentration that mother's milk has. Freezing point and electrical resistance will be disturbed and thus resorption will be unfavorably influenced.

Too great dilutions, 4 or 5 times, will conduct too much water to the system and overflood it. For these reasons it is not best to dilute cow's milk more than absolutely necessary. The highest dilution that physiologic conditions would allow is one part milk to two parts water. One part milk, two parts water, 8 per cent. sugar to keep sugar up to 7 per cent. in 100 parts.

	Proteids.	Fats.	Sugar.	Ashes.
33 parts milk	0.9	1.2	1.5	0.2
66 parts 8 per cent. sugar sol......	. .	. .	4.3	. .
	0.9	1.2	6.8	0.2

400 Calories.

This as a mixture, viewed as an ordinary chemical mixture, resembles mother's milk with the exception of fats. We can, however, increase the volume taken by the child by from 100 to 150 c.c. (from 3 to 5 oz.) over that obtained by nursing to overcome the deficiency in fat.

A simple way would be after the first two to three months to give the one-half mixture, which is as follows:

	Proteids.	Fats.	Sugar.	Ashes.
50 parts milk	1.5	1.8	2.2	0.35
50 parts 10 per cent. sugar sol.....	. .	. .	5.0	. .
	1.5	1.8	7.2	0.35

500 Calories.

This mixture shows an increase of proteids and sugar over mother's milk, but deficiency in fats, and can be given in the same volume as mother's milk of the same period.

Finally, from the third or fourth months we may give the two-thirds mixture; that is, two-thirds milk and one-third water in 100 parts.

	Proteids.	Fats.	Sugar.	Ashes.
66 parts milk	1.8	2.4	3.0	0.47
33 parts 12 per cent sugar sol......	. .	. .	4.0	. .
	1.8	2.4	7.0	0.47
		600 Calories.		

This mixture contains almost the same amount of non-nitrogenous substances as a mother's milk, but the nitrogenous substances, salts, are double the amount in mother's milk. Experience shows us, however, that children of four months or over can easily take this mixture providing that the daily quantity given does not exceed one liter from the fourth month on.

It can not be emphasized enough that we should always know the daily quantity given. This point is frequently overlooked when prescribing the mixture.

With the above mixtures one can artificially feed and raise a normal healthy infant and thousands are being thus raised today. This one point will have to be emphasized again and again, that cow's milk and sugar of milk will have to be bacterially clean if we wish to have any success in artificial feeding.

It frequently happens that the child is not satisfied with the portions given and will cry for more, as if still hungry. It is then well to add an ounce or two of oatmeal gruel so as to give the feeding more bulk. A too rapid increase in weight will also have to be watched, as it indicates overfeeding and the quantity will have to be reduced.

Another point to know is that it requires two hours to empty the stomach completely after breast-feeding and three hours after artificial feeding. The stomach should always be empty before another feeding is given. When the time approaches for a feeding the child, if healthy, will cry for its food, and it should be allowed to cry for a few minutes. The time allowance should be rigidly adhered to. Food given before the stomach has emptied itself of the preceding feeding causes distress to the child and will make it restless and give it colic.

HEUBNER'S TABLES

TABLE I

Barley meal, 100 calories to an ounce.
Oatmeal, 100 calories to an ounce.
Flour, 100 calories to an ounce.
Sugar, 100 calories to an ounce.
Whole milk, 700 calories to quart.
Skim milk, 400 calories to quart.
Buttermilk (plain), 400 calories to quart.
Buttermilk, 1.5 per cent. flour and 6 per cent. sugar, 700 calories to quart.
Skim milk, same as one-third milk. Heubner.

TABLE II

100 calories to kilo body weight.

Based on 45 calories to pound of body weight. Must feed child in 24 hours.

2 ¼ oz. to pound weight, pure milk.
2 ¼ oz. to pound weight, ⅔ mixture with barley.
2 3/5 oz. to pound weight, Heubner's ⅔ milk.
2 3/5 oz. to pound weight, Heubner's ½ mixture. (Barley.)
3 oz. to pound weight, Heubner's ⅓ mixture with barley.
3 oz. to pound weight, Heubner's ½ mixture with barley.
4 oz. to pound weight, Heubner's ⅓ mixture.

TABLE III

HEUBNER'S MIXTURE—PROTEIDS AND FATS

	Proteids.	Fats.	Sugar.	Salts.	Calories.
I. ⅓ milk	0.9	1.2	1.5	0.23	. . .
⅔ 8 per cent. sugar sol. .	. .	. .	5.8	. . .	400
	0.9	1.2	6.8	0.23	400
with barley (5 per cent)	. .	. .	3.3	. . .	500
			10.00		
	Proteids.	Fats.	Sugar.	Salts.	Calories.
II. ½ milk	1.5	1.8	2.2	0.35	. . .
½ 10 per cent. sugar sol.	. .	. .	5.0	. . .	. . .
	1.5	1.8	7.2	0.35	500
with 5 per cent, barley. .	. .	. .	2.5	. . .	600
			9.7		
III. ⅔ milk	1.8	2.4	3.0	0.47	. . .
⅓ 12 per cent. sugar . .	. .	. .	4.0	. . .	. . .
	1.8	2.4	7.0	0.47	600
with 5 per cent. barley. .	. .	. .	1.6	. . .	700
			8.6		

TABLE IV

Weight.	6th and 7th months. 700 calories. Whole milk.	4-5 months. 600 calories. ⅔ milk.	2nd 6 weeks. 500 calories. ½ milk.	1st 6 weeks. 400 calories. ⅓ milk.
lbs.	oz.	oz.	oz.	oz.
6	13½	15	18	24
7	16	17	21	28
8	18	20	24	32
9	20	23	27	36
10	22	26	30	40
11	25	29	33	. .
12	27	31	36	. .
13	29	34	. .	. .
14	31	37	. .	. .
15	34	39	. .	. .
16	36	42	. .	. .

Less than needed should be given when first starting to feed.

By adding barley one need not give over 32 ounces in 24 hours before the child is 4 months old.

The attempt of Heubner and Camerer to apply mechanical principles to the processes of nourishment of the nurslings is declared by many pediatricians to be a failure, and so viewed by many more. Having made provision for energy requirements of the child, and it does not thrive, some observers declare that the application of the law of isodynamic representation of the different foods is inadmissible; in fact, they doubt the benefit of this mode of viewing things, and with this they have declared a doctrine as worthless that in every other field or department of physiology and pathology of nutrition has given invaluable results. No physiologist who earnestly considered his subject was ever of the opinion that the mechanical conception of nutrition solved the problem; it has always been pointed out and emphasized that, in connection with and conjointly, the chemico-physiologic side of the question deserves the closest consideration.

Those who make light of so fruitful and serious a matter and are inclined to be sarcastic are referred to the article of Camerer.[1]

There is no doubt but that in considering artificial feeding from the standpoint of energy units we obtain a new vantage ground, and one point gained, and not the least, is the capability of comparing the various foods in sickness and health.

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ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. LACKNER AND BOWDITCH

DR. HENRY KOPLIK, New York: About fifteen years ago I had the honor to introduce the Heubner method of infant feeding into this country. I introduced it in my dispensary in New York. It was surprising to see how well a large number of children could be fed on this caloric system. I published the results of my experiences at that time in a paper on the increase in weight of infants on artificial feeding read before the American Pediatric Society. The paper received a great deal of criticism, for the percentage method was then just coming into vogue. The trouble with Heubner's system is its lack of elasticity. Heubner says that we can substitute the fats by carbohydrates, but I found that very young infants, before the third month, would not increase in weight under the exact caloric amount. I think the problem is something deeper than the caloric coefficient. It is not the normal baby that we are called on to feed. The exceptional baby we have to feed will require something else. In these exceptional babies the digestive capacity of the stomach and the gut must be considered. Some little time ago I had an opportunity to compare some of the formulas in the American text-books with the caloric method and they came very close to the caloric needs of the infants at those ages put down, and it would have been unjust to criticise these percentage formulas from a caloric standpoint. It is not simply a matter of caloric coefficient, it is not a matter of percentages alone, but it is a question of the individual baby pure and simple.

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[1] Jahrb. d. Kinderh., lvi.

Dr. L. T. Royster, Norfolk, Va.: We can not go by rule of thumb in feeding infants; the baby is to be studied. When I was a student in New York the feeding was done by a whole algebraic coefficient at which time the protein was vilified for all the troubles in infants. A little later the top feeding came along to simplify things, and it was very fortunate indeed. Then the fat was blamed almost entirely. In every instance in which a problem has been apparently solved, shortly thereafter the pendulum has swung away from that to the farthest extent. One of the older philosophers has said that "experience is fallacious," but through experience only can we acquire judgment, and only through seeing a large number of patients can any one determine that a certain formula will meet the requirements. And judgment, in the final analysis, is the court of appeal in the individual case.

Dr. J. P. Crozer Griffith, Philadelphia: I wish to compare the so-called American method of feeding with the German or "caloric" method. The trouble with the German method, as applied to infant feeding, seems to me to be its lack of elasticity. For instance, Biedert, years ago, developed in a thoroughly scientific manner certain "cream-mixtures," Nos. 1, 2, and so on. They were scientifically correct and it was a baby's duty to thrive on them. If the child did not thrive it was it's fault, not that of the mixtures. Then came the Backhaus mixtures, made fixed in the same way, and next put on the market as proprietary preparations. In fact, it is noteworthy that, contrary to the custom in America, many of the German proprietary foods were devised and named by physicians before they were patented. I do not question that German medicine, taking it all in all, is much ahead of us in the scientific study of infants and of the food which they require, based on the amount of nitrogen, phosphorus, and the like, ingested and excreted; but I think the American physician gives more attention to the needs of the child as an individual; his method is more elastic. The trouble with the caloric method, I think, is that, although scientifically exact, it can not be applied as well practically. It does not take into sufficient account the character of the food and the susceptibility of the individual child to certain ingredients. I consider it an excellent check on other methods of feeding, because by it we can tell whether a child is receiving a diet strong enough in calories to permit it to thrive.

Dr. Frank S. Churchill, Chicago: I am a believer in the percentage method of feeding because I consider it the best, and we ought to take the best wherever we find it. I was taught twenty years ago that the individual baby must be considered in this matter of feeding, and have seen no reason to change my opinion since. Every individual must have a certain amount of food; he must also have a certain amount of fat, carbohydrate, proteid, etc., to meet the requirements of the system. We must figure out, so far as possible, just how much fat, sugar and proteid each individual, each baby, needs. At present we must depend more or less on our judgment as to what are these requirements; in the future I think that the physiologic chemists will give us much help in this direction. After determining what the baby needs, the caloric method may act as a check in helping us determine just how much the baby needs. In feeding atrophic babies especially I have found it of value to "check up" by calories, to prevent over-feeding. Yet the caloric method alone is not sufficient. For instance, I have seen babies fed by the caloric method alone, no attention being paid to the percentages of the different ingredients in the diet. The total calories were all right, according to the baby's weight, but he was not gaining in weight. Analysis of the formula would show that the fat was low (the advocates of the caloric method are fearful of fat), and correction in this direction resulted in the desired gain. We must have a well-balanced formula in feeding babies.

Dr. H. D. Chapin, New York: One thing has not been taken into consideration in the comparison of the two systems. The feeding of the baby is practically for tissue growth. According to the caloric system we can run up the carbohydrates and leave out the fats and get the calories just right. We have just got our students educated up to the percentage system for food values, and if we are going to give them a long system of calories they will throw up their hands. There is no comparison between the two systems because the percentage system is right and the caloric system is only half right. The caloric system puts the emphasis in the wrong place.

Dr. C. G. Kerley, New York: Recently I investigated about 100 histories of infants ranging from 1 to 12 months of age who had thriven satisfactorily on artificial feeding. I estimated the caloric value of the daily amount of food each child had received. The infants were well, thriving and happy. I found that they had been getting from 100 to 300 calories a day more than Heubner's method called for. Since then I have attempted to feed other children according to the supposed caloric method and found that the New York baby is not satisfied and does not thrive when fed in this way. In fact, it was absolutely imperative to give more nourishment, as the children were hungry and failed to grow. If I had not given these babies food of a higher caloric value than Heubner states is necessary they soon would have ceased to be my patients. The element of waste is very important in the nutrition of children. Not all by any means is utilized that passes into the stomach. In one case, a physician's child, 3 months of age, I had to give 300 calories more daily than Heubner states is necessary. He had to have it. His father said he could not live in the house with him otherwise.

Dr. Charles Douglas, Detroit: Dr. Kerley's are exactly the principles I have been compelled to follow. A child of one month will digest more fat and more protein in proportion than a child of six months. I frequently find a child working up on a certain food, increasing steadily and without a single change in the food. If the caloric system were applied to that child with an increase in weight more calories would have to be given. I find that a child needs to be comfortable and happy, a happy child is always a successful child. A child who does not sleep and is not happy is not getting the right kind of food, or he is not getting enough or else too much food. Children vary in their digestive power at different ages. They digest the most simple parts of the carbohydrates and fats given them and the rest they throw away. The food that makes them comfortable is the best we can give them, and we must meet the child's ability in this regard.

Dr. Walter D. Ludlum, Brooklyn: I have been more and more impressed with the worthlessness of the caloric method. I, too, have compared the average percentage formulas with the caloric and I have worked out the calories, and I find that in every case more is actually needed for the child's nutrition than is required by the Heubner method. I have used the Heubner method only as a check, for it provides for the sum total of the caloric value of the food and not for the different elements of it. If it is to be popularized it must be simplified beyond the present arrangement. To place such a chart as that before a class of students, or even of physicians, simply horrifies them.

Dr. D. J. M. Miller, Atlantic City: For many years I have been connected with the Children's Hospital of Philadelphia, and I have been impressed with the fact that the young physicians serving as internes have not been taught the principles of artificial feeding of infants. I hope that this discussion will be productive of one thing at least, *i. e.*, that students will be taught the basic principles of infant feeding and not the method of this and that man, for they are taught methods and not principles, now, and those of us who are interested in children see the disastrous results of this plan of teaching. One of the most successful feeders of babies that this country has ever had, the late Dr. John F. Meigs of Philadelphia, said that the most successful physician for a baby was the man who adapted himself to the needs of the particular baby.

Dr. John Lovett Morse, Boston: The gentlemen who have preceded me have voiced well my feelings as to Heubner's system of feeding. I have found the calculation of the caloric value of food useful as a check to prevent both over-feeding and under-feeding. It seems to me that there is a very general misapprehension in the middle west as to what is meant by the percentage method of infant feeding. The percentage method is not a method of feeding; it is simply a means of knowing accurately what we are giving the baby. We try to feed adults accurately and we write our prescriptions accurately. Why should we not determine accurately what we are feeding babies? There are many men in this country who, it seems to me, are ready to accept anything which comes from Germany without investigation or consideration and without comparison with American methods. Pediatricians in this country know what is being done in Germany; those in Germany know little or nothing of what is being done here. Judging from their writings, they are almost entirely ignorant of the best American methods of infant feeding. I believe that what German pediatricians most need at present is a course in infant feeding in some of our eastern cities.

Dr. H. T. Price, Pittsburg, Pa: From the discussion here it would seem that all the German babies artificially fed should die. The foundation of the Heubner system is simply the aim to feed a low fat. Every sensible man will feed a baby what it should be fed to make it grow. The foundation of the Heubner school is chiefly a lower fat than has been the custom.

Dr. Ernest Lackner, Chicago: I would like to know what Dr. Morse would do without tuberculin or any of the other things we use every day and for which we are indebted to the Germans. The Germans have the necessary schools and establishments for the pursuit of scientific work. Scientific matters are neither American nor European, they are universal, and any man who will criticise any physician for doing things as *Germany is doing to-day should reconsider his remarks. What* von Behring is doing to-day is enough, for through his efforts hundreds of thousands of lives are being saved. What is Ehrlich doing? The work of these men is certainly not American. This idea of being patriotic in science is impossible. I have given you to understand what Heubner means by his method of feeding. Heubner's *feeding* is *not caloric, he has simply re*duced down to calories and to energy units the food given the baby. I have a letter here from Heubner on this subject that will answer most of these objections in a general way. Cow's milk is not fitted for the infant, it has to be modified. Each child will have to be examined closely as to its idiosyncrasies in taking fat. Start with a low percentage of fat and work up. The Germans are not advocates of a low percentage of fat, they are simply trying to fit the amount of fat to the capacity of the child. As to the sugar, there are three which may be used. Jacobi has recommended cane sugar, and one disadvantage is that when you want to wean the child it does not like to be weaned from this very sweet mixture to something else. Then there is lactose or sugar of milk. It is slow in adding to the weight, but you can give large quantities of it and a child will seemingly scarcely gain in weight at all. By the addition of maltose it will increase very rapidly. Lactose must go through a certain process in the digestive canal, but maltose passes directly through the intestinal canal, and is worked on in the system. The child can be given twice as much maltose as cane sugar or lactose. Finkelstein explains how to determine the amount by Heubner's system.

Dr. H. J. Bowditch, Boston: I am glad Dr. Morse said what he did about the percentage system of feeding. It is true that food for one is poison for another, and this is just as true in the feeding of babies as in adults. This trigonometry table may be of value but it is not a thing that should be taught to a student. The question has come up as to what should be taught the student. When I went abroad I found they were teaching the caloric method. I did not know anything about it and so was much handicapped. Students should be taught what it means and how, in the simplest form, calories are calculated, but we further ought to teach the student that it is not a method of feeding children. Every child has to be fed according to what we have discovered from its symptoms, its movements, and changes in the food.

THE INFLUENCE OF THE OLFACTORIES ON DIGESTION

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The sense of smell is probably the least valued of the five senses, and the rôle it plays in many of the important bodily functions is least appreciated by the human race. Among the lower animals it is more essential, for by this sense they find and select their food, as well as detect the approach of danger. Some of the savage, or so-called wild people, have this faculty as highly developed as the lower animals, and Humboldt tells us of some Peruvian Indians who could follow the scent of game as well as hunting dogs.

These facts, though interesting, do not come within the scope of this article, and, in order properly to discuss the influence of the olfactories on digestion, we should study this subject from an anatomic, a physiologic, and a psychic standpoint. It may be well to remind the reader briefly that the area of the terminal expansion of the olfactory nerve, the olfactory region, covers an area only about the size of a ten-cent piece in man, including only the upper part of the septum and the islands of the superior turbinate; detached islands are found in the vicinity of this chief olfactory region, but the remainder of the nasal cavity is fitted and used for respiratory purposes only.

There are certain essential differences between the olfactory and respiratory regions, the principal ones being as follows: The olfactory region possesses thicker mucous membrane, but is covered with only one layer of cylindrical epithelium, and contains a yellow or brownish-red pigment, while the respiratory region has a double layer of ciliated epithelium mixed with some goblet cells. The main difference, however, lies in the presence of the end organs of the olfactory nerves and the olfactory cells which lie scattered between the long cylindrical epithelial cells of the surface; also the fine olfactory hairs are present, projecting through the pores of a delicate structureless limiting membrane, covering the surface of the epithelium. It will be noted that the area devoted to smell is situated as far as possible from the external nares.

The sensation of smell is elicited by the presence of odorous substances in a gaseous state, coming in direct contact with the olfactory cells or hairs. This generally occurs during inspiration; but odors received through the mouth, and then expelled through the nostrils, may be smelled, though not accurately.

The first moment of contact of the odorous substance with the olfactories seems to be the most effective, for they soon "tire" of a continuous odor, and may be absolutely insensible to it, while retaining their usual acuteness for a different one; for this reason it is best to sniff, or take frequent short inhalations with the mouth closed. Some vaporous substances, especially those with pungent qualities, seem to act simultaneously on both the olfactory and gustatory senses, and Zwaardemaker describes some structures found in the olfactory region similar to taste buds. Nagel thinks, however, that this is only a stimulation of the gustatory nerves on the posterior side of the uvula.

While a morsel of food is being masticated there is free communication with the nasopharynx, except during the instant of swallowing. Immediately afterward a moist vapor charged with the odor of the substance in the mouth is carried into the nose. It is at this moment, but not while the fluid remains in the mouth, that one "tastes" the aroma or bouquet of drinks. This faculty of combining smell and taste in a discriminating manner is highly cultivated by those who make a profession of judging the various teas and wines.

The digestion may be influenced by the olfactories in several ways—directly, reflexly through idiosyncrasy, or by some complex psychic process hard to analyze. It is estimated that it requires about 2,000 cubic feet of air to pass daily through the lungs of an adult in order to furnish enough oxygen to maintain good digestion, and, as the greater part of this air passes over the olfactory region, the content of odorous substances it contains may exert a marked effect on the alimentary tract.

That appetizing odors may make the mouth "water" by stimulating the salivary glands is well known, and Pawlow has shown that the gastric juices are fully as susceptible to the gentle suggestions of the olfactory organs. Every one who reads these lines can doubtless remember a past experience, when fragrant odors wafted by friendly breezes from some near-by kitchen not only whetted the appetite, but also brought about in the stomach that gnawing sensation which only a bountiful flow of the digestive juices can produce.

On the other hand, no one factor can exercise a more malign influence over the appetite, and with it the digestion, than foul or repulsive smells; for we must admit that, as Bassler well says, "viewing the body as a whole, a marked disturbance in any organ outside of the digestive canal acts as a chestnut-burr irritation in upsetting the normal nervous balance of the neurologic system, and that these abnormal stimuli manifest their effects most easily on the digestive organs, which, through abundant sympathetic supply, are most sensitively balanced." As some loathsome sight or a disgusting mental picture may kill the appetite and "turn" the stomach, so a foul odor, through its reflex action, may just as effectually dry up the "appetite juices." Even after digestion has normally begun, the presence of a disagreeable odor may retard its progress, and, by inhibiting the secretion of gastric juice, and checking the motor waves of the stomach, may allow stagnation, bacterial fermentation, and the formation of gasses and irritant decomposition products.

The influence of odors and perfumes on many people is exceedingly marked. Some there are who can not remain where lilacs are in full bloom, or bear the odor of jasmin; others are given a headache or are nauseated by heliotrope or tuberose, while the smell of cantharides often causes vertigo and a sinking sensation in the epigastrium. Even the fragrance of roses has an irritating and nauseating effect on some. Attacks of real illness, with long trains of digestive disorders following in their wake, may be brought on by odors.

I recently saw, with Dr. J. L. Campbell of Atlanta, a middle-aged woman who was affected with nausea and vomiting by the smell of fish, mutton, turpentine or butter-beans, and, unless she got away from these odors quickly, severe purging and prostration set in, rendering her as ill as if she had been suffering from some form of ptomain-poisoning. Strange to say, she could eat either fish or mutton with relish, and without any discomfort, if she could prevent their odors from reaching her olfactories.

I have seen several individuals who, having been made sick by some article of diet in the past, experienced the most lively repugnance and nausea at the slightest whiff of the well-remembered article for months or years afterward.

Dr. J. D. Thomson of this city has reported to me the case of a veteran of the late war between the states, who was surfeited with onions during his war-time experience. The cooking facilities in camp being limited, the taste and odor of onions permeated every mouthful of food and drink, and now, after a lapse of over forty years, he can not eat in comfort where the smell of this vegetable is in evidence.

That offensive odors may not only derange the digestion, but may cause even death, and that the most horrible, was recognized about the time of Alexander the Great. One of the methods then used for executing a criminal guilty of some specially revolting crime was to manacle the living man hand to hand, foot to foot, and neck to neck to a dead body; and it was found that the vile effluvia emanating from every pore of the putrefying corpse, coupled with the awful psychic abhorrence, speedily quenched the vital spark of the hapless victim, no matter how powerful the physique or callous the mind.

Every intelligent observer will grant that these resentments to odors, in some cases, are real idiosyncrasies and not the manifestation of pretense or prejudice. The fact can be explained only as a pathologic phenomenon exerting its main force on the most vulnerable point of the human economy, the gastrointestinal tract. Such conditions can occasionally be aided by a general toning up of an unstable nervous system, but, as a usual rule, the only safety lies in avoidance, if possible, of the repulsive odors.

As offending scents may set in motion a train of morbid digestive symptoms, so, on the contrary, those that are sweet and agreeable may exercise a highly beneficial effect. The Orientals appreciate much more than we the delightfully soothing influence of pleasing perfumes, having developed within themselves to a notable degree the faculty of deriving the most enjoyment from inhaling fragrant odors. The most beautiful creations pictured in the imagination of Mohammedans are the houris, represented in the Koran as nymphs of Paradise, formed of musk, who exhale from their lovely bodies entrancing perfumes.

We are told by travelers that it is the custom of many Eastern peoples to spend after each meal a season of quiet, while the air around them is rendered fragrant by a fine mist; or, this not being convenient, a bottle of their favorite perfume is constantly inhaled. Even the poorest indulge in this habit, for they all, rich and poor alike, feel that it benefits both their nerves and digestion. By smokers the aroma of tobacco is greatly prized, and all unprejudiced observers will grant that a good cigar, coupled with a serene mind, will often materially help in the proper disposal of a hearty meal. Many have also noticed the speedy peristalsis of the bowels, which would otherwise be lacking, set up by an after-breakfast smoke.

It would seem that a psychic state favorable to the digestive processes may be induced through the olfactories fully as well as through the other senses, and I believe that this almost fallow field may be cultivated profitably by the gastroenterologists.

Since we admit that the commonly seen symptoms of cessation of digestion, spasms of the cardia or pylorus, anorexia, nausea, vomiting or diarrhea may be brought on by insulted olfactory organs; and, as all of us realize the danger to individuals and communities from noxious vapors, it would seem a worthy endeavor to study these agencies intelligently, that we may avoid the evil and extract the good that in them lies.

The different functions of the body vary in their importance as do different stars in brilliancy, but each has its proper rôle, exerting its own quota of authority. Let us not, therefore, deem unimportant this humble faculty of smell, which, though modest, is always alert and discriminating, and whose influence over the whole digestive system is becoming more and more appreciated.

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A STUDY OF THE ANATOMY AND THE CLINICAL IMPORTANCE OF THE SACRO-ILIAC JOINT*

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Some time ago the writer was much surprised, on reading the literature of the minute anatomy of the sacro-iliac joint or synchondrosis, to find such a marked disagreement among the most prominent anatomists and gynecologists. To quote in brief from some of them: Morris holds that even the presence of synovial membrane is not constant, stating that it is more apt to be present in the female. Luschka believes that a small amount of synovial membrane is always present and that it increases in size at times of pregnancy. Cunningham states that the synovial cavity is imperfect and rudimentary, but believes that hyaline articular cartilage exists usually. Testut, the great French anatomist, mentions certain folds of synovial membrane which occur here and there, filling up gaps or margins of the fibrocartilage. Morris denies that there is any appreciable movement at this synchondrosis. Williams (in 1903) states that "the articulation between ilium and sacrum is described as a synchondrosis, but is really a joint, on account of the presence always of more or less synovial membrane." Kuttner asserts that it is a joint with motion and that the horizontal position increases the true conjugate diameter of the pelvis by 6 mm. and Walcher's position by 9 mm., as compared with the lithotomy position.

On account of the above-mentioned disagreement of the best authorities as to the anatomy of this joint, with emphasis on the term "joint" rather than synchondrosis, I was induced to ascertain, if possible, by the dissection of a sufficient number of joints, its true anatomy. By the kindness of Professor Haynes an abundance of material was furnished me at the Cornell University Medical College.

The results of this work are briefly as follows: In the careful dissection of fifty specimens a perfect joint, composed of all its elements, such as synovial membrane and cavity, and strong well-formed capsule was found in each instance, and proved to be as constant in its size and relations as any other joint. Before opening the joints many were injected with an aqueous solution of methylene blue, which colored the synovial membrane so that it could be seen to distend and retract all along the anterior-inferior aspect of the joint when motion was elicited. This part of the capsule is very thin, which accounts for the fact that infection of this joint is very prone to discharge by this avenue into the pelvis and rarely through the very thick part of the capsule posteriorly; also, this part of the capsule often ruptures in symphysiotomy, and in case of puerperal sepsis opens the joint to infection. Sansten states that it ruptures in 44 per cent. of cadavers below 6 c.c. of pubic separation. The lumbosacral cord passes in close proximity to the joint at its lower third, and undoubtedly is frequently involved in affections of this joint, thus explaining the presence of persistent pain in the distribution of this nerve, i. e., sciatica.

The articulation is easily opened by incising the anterior part of the capsule and forcing the pelvic bones apart in front, the symphysis pubis having already been separated. The sacrum and the ilium swing on the posterior and interosseous ligaments, as a door on its hinges. Hence the infrequent interference with locomotion and permanent injury of this joint following symphysiotomy.

In my dissections the interosseous ligament always separated from the ilium and never from the sacrum. The round ligament sometimes ruptured and sometimes its bony attachment. The anterior or auricular portion of each articular surface was covered with a thin plate of cartilage, which was thicker on the sacrum than on the ilium. It averaged, in the fifty specimens, in its greatest length, 7 cm. (2 3/5 inches), and in width 3 cm. (1⅛ inches). The largest joint area of hyaline cartilage was 8 cm. (3 1/16 inches) in length and 3 cm. (1⅛ inches) in width. The smallest was 6 cm. (2¼ inches) in length and averaged in width 2½ cm. (15/16 inches).

The posterior irregular part is the attachment of the interosseous and round ligaments, around the latter of which most of the motion occurs as about an axis. One joint was affected with osteoarthritis and the anterior part of the joint was obliterated with bony deposit, which also extended into the posterior ligament.

Let us now consider briefly the mechanics of this articulation. The sacrum is an inverted key to an arch suspended principally by the posterior sacroiliac ligament. The base of the sacrum, in the upright position, projects forward beyond the articular surfaces of the ilium and has a tendency to tip down. This is prevented by the sacrosciatic ligaments, which tie the lower part of the sacrum to the ischium. Here is a great articulation placed at the cross-roads, so to speak, between the trunk and the thighs and mechanically imperfectly constructed to sustain sprains and injuries.

Distinct motion was elicited and measured carefully in every specimen except one and motion was absent here, as stated above. These researches were carried on in conjunction with Dr. Henry L. Taylor and will be reserved for a future publication. Sixteen of the cadavers were placed in Walcher's position[1] and the true conjugate diameter of the pelvis averaged an increase of 8 mm. (⅓ inch). Walcher obtained 9 mm. on the living subject.

My interest in the pathology of this joint was first stimulated by seeing a case of relaxation of this joint with Dr. Goldthwait of Boston in 1903. This was before the publication of the monograph on this subject by Dr. Goldthwait and Dr. Osgood, who were the first to demonstrate the existence of such a condition. The relaxation in the case referred to was caused by lying for a very long time in the position of dorsal decubitus following a pelvic operation.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

* From the anatomic laboratory of Cornell University Medical College

[1] Patient on back with her legs hanging over the edge of the table.

Under favorable circumstances, however, this joint will stand much abuse, as in the case of a symphysiotomy. Edgar reported five cases in which he obtained from 2 to 2½ inches of separation at the symphysis followed by firm union and without symptoms. Nevertheless, this articulation is liable to all the affections of other joints and in the event of infection the prognosis is often serious, because, first, it is very likely to be a metastatic infection from some other part of the body, and, second, as described above, on account of the danger of spontaneous drainage forward into the pelvis.

ILLUSTRATIVE CASES

Case 1.—*History.*—Miss N. M., was seen by me Feb. 25, 1906. She worked in a web factory; her previous history was negative. Last October she fell over a large stone in the country and strained her back, and was in bed two weeks. This was followed by inability to stoop, lie on back, or stand on right foot, without severe pain in extreme lower part of the back, which always remained in the same place and became more severe at her menstrual periods. The patient's only comfortable posture was lying on the left side.

Physical Examination.—Total lateral spinal curvature to the left. Spine normally flexible. Hip and other joints normal. Very distinct tenderness over lower part of right sacroiliac joint. Goldthwait's symptom present, i. e., pain in region of sacroiliac articulation, when the thigh was flexed with extended leg to a right angle or less. Pain produced by standing on right foot; most severe, however, when patient attempted to turn over, while in a reclining position.

Treatment.—Pelvis was encircled by very tight two-inch bands of surgeons' adhesive plaster just below the anterior-superior spines of the ilia. Patient reported in one week entire relief. The strapping was reapplied, at periods of a week, four times. A long corset with a four-inch elastic webbing belt at bottom to grasp the pelvis was then made, which has been worn with entire relief every since.

Case 2.—*History.*—Miss A. O., aged 15, was referred to me by Dr. A. A. Crane, Waterbury, Conn., Feb. 20, 1906. She attended school and practiced on the piano a good deal. Previous history was negative. The patient has had pain continuously in lower part of back ever since falling on the ice three years before. There was an increase of pain at the time of each menstrual period, although menstrual fluid had not appeared. Pain was produced by walking, sitting, especially on the affected side, or laying on the back. The patient never lays on the back, always on the left side.

Physical Examination.—Fairly well developed and nourished girl. Examination negative except for marked total spinal curvature to the left. No rotation. Tenderness over upper part of right sacroiliac joint. Spine normally flexible except in its extreme lower part. Goldthwait's symptom markedly present. Pain elicited by patient standing on right foot and lying on the back.

Treatment.—This was same as first case. The relief was marked, although for three years the patient had been under constant treatment without the slightest amelioration of the symptoms. Three months later the patient reported that relief had continued and that she had gained ten pounds in weight.

I am indebted to Dr. H. H. A. Beach and Dr. R. B. Osgood for the privilege of reporting the following case:

Case 3.—*History.*—F. C. R., a man, aged 23, entered the Massachusetts General Hospital, Dr. Beach's service, Sept. 28, 1905; occupation, mechanic. Past history was negative; no rheumatism. Three months before, while carrying one end of a heavy canoe the patient stepped into a hole and felt something slip in the lower part of his back. This was followed immediately by pain when sitting or turning in bed. The patient and his friends noticed that his right hip was becoming more prominent than the left. The pain increased also.

Physical Examination.—Very frail physique. Thorax and abdomen negative. Body tilted to left when patient stood, set or reclined. Flexing extended leg on pelvis caused pain when a right angle was reached. Forward and backward motions showed that the spine is held rigidly on the pelvis. Lateral motions of the spine were normal, from the mid-dorsal region upward. An *x*-ray picture showed a dislocation of the right sacroiliac joint.

Treatment.—Ether was given October 6 and Dr. Osgood reduced "the right ilium to its normal position, so that its crest came on the same level as that of the left ilium and so that the sacrum seemed in its normal relations." A long plaster-of-Paris jacket extending well over the hips was then applied, with the lumbar spine in extreme lordosis. I saw this patient Oct. 8, 1905, and at that time he was walking about without pain or deformity.

Case 4.—*Patient.*—M. G., a married woman, aged 35, was seen at the Post Graduate Hospital in June, 1906. Past history was negative. One year ago patient had a very difficult labor, forceps having been necessary. The convalescence was normal except for a great deal of trouble with the lower part of the back, on account of which she remained in bed six months. Patient stated that the first thing she noticed was pain and "a grating sensation" in that region, and indicated the left sacroiliac joint as its location. The grating lasted two months and slowly disappeared. The pain, however, persisted unabated and was much exaggerated at her menstrual periods. Stooping, standing on left foot and lying on back, caused pain in this region.

Physical Examination.—Patient well nourished. Total spinal curvature to right, patient sitting more comfortably on the right side. Tenderness to deep pressure over lower part of the left sacroiliac joint. Goldthwait's symptom present.

Treatment.—Pelvis was strapped and relief was immediate. The strapping was continued for six weeks and then a long corset with a webbing belt was fitted. The relief had continued when the patient was last seen.

Case 5.—Dr. M. H. was attending the lectures at the Post-Graduate Medical School in July, 1907, when I demonstrated a case similar to the above cases. The relief from the strapping was so marked that the patient threatened to leave a cane, on which he was so dependent only a few minutes before. Dr. M. H. was so impressed with the similarity of his own symptoms that, after the lecture, he came to me and stated that he felt sure that he was suffering from the same condition. He said that he had sought relief without avail, from many sources, including his colleagues and several members of the faculties of the Post Graduate Medical School and the Rush Medical School in Chicago, of which latter school he was a graduate. He had been thrown from the back of a horse two and a half years before, from which time symptoms dated. The result from the above-mentioned treatment in his case was as striking as in the case he had just seen.

A sixth case represents, with the postoperative case already cited, a class in which a relaxation occurs from a long-continued strain on the ligaments, as contrasted with a sudden trauma.

Case 6.—The patient was a man aged 45; his symptoms dated from the time he had held, for a considerable time, in a stooping position, a heavy plate-glass window, while a fellow workman fastened it in place. This patient had a convalescence similar to the others but slightly prolonged, which, by the way, is very liable to be the case in this type of trauma, according to my experience.

Case 7.—*History.*—M. G., a man, aged 21, was seen May 12, 1907. For the past year the right knee had been very painful and had been in a plaster-of-Paris splint most of the time. The patient had used crutches most of the time. His general health had declined and he had lost considerable weight. Four months before he was seen he began to have pain in the lower part of the back, especially when walking, stooping or turning over in bed. The past few weeks the pain had become much more severe. The decline in the general condition had been more rapid. The appetite had become very poor and the patient thought that he had a fever each afternoon.

Physical Examination.—The patient was very poorly nourished and pale; temperature 101 F. at 3 p. m. There was considerable swelling about the right knee. It was flexed about 15 degrees and very sensitive to slight passive motion. Condyles of femur were apparently enlarged; tibia somewhat subluxated.

There was a total lateral curvature of the spine to the left. The lumbar region was held very rigidly. There was considerable swelling and deep fluctuation over the right side of the sacrum. A rectal examination disclosed a tumefaction and questionable fluctuation on the right side of the pelvis in the region of the anterior-inferior part of the sacroiliac joint. A diagnosis of tuberculosis of the knee and the right sacroiliac joint, with secondary infection and rupture of the latter into the pelvis was made.

Treatment.—An incision over and down to the joint was made posteriorly. The portion of the ilium overhanging and obscuring the joint was chiseled away and apparently good drainage secured. The patient rallied somewhat after the operation and disappeared from observation. His death was reported two months later.

CONCLUSIONS

1. The sacroiliac articulation has all the elements of a joint and therefore has a similar pathology.
2. It has motion and plays an important rôle in labor.
3. Its variation, according to individual, age or sex, is very slight.
4. Its anatomy is such that drainage into the pelvis is very apt to occur, and, therefore, in the event of infection, early posterior drainage is often indicated.
5. Its affections are, undoubtedly, the cause of many obscure and unexplained backaches and persistent sciaticas.
6. The important ligaments of this joint are so placed that the sacrum and the ilium swing open, in the event of a symphysiotomy, as described above, and little permanent damage results, even if the pubic separation has been great enough to rupture the unimportant anterior-inferior part of the capsule.
7. The relaxation of this articulation should be guarded against by support of the lumbar spine with pillows, etc., in cases of protracted postoperative convalescence. Undoubtedly, many here can recall instances of Nature's warning, in the form of a convalescent's backache, which the nurse so readily relieved by merely placing a pillow under the lumbar spine.

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ABSTRACT OF DISCUSSION

DR. C. C. FREDERICK, Buffalo: The important point that the paper raises is the differential diagnosis between conditions in the female pelvis that are due to pathology of the female pelvic organs and those conditions which so simulate disease of the pelvic organs, but are not due to disease of these organs but to the conditions that Dr. Albee has just mentioned. Over a long series of years we have all had women come to us, young and old who have been treated by all the various methods employed for the relief of pain in the back, pain down over the appendix, pain in the ovarian region, tenderness in the pelvis, etc., the pelvic organs being blamed for the pain, discomfort and neurasthenia. If we go back into the history of these women we will find a fall or accident to which at the time little attention was paid. Gradually, however, symptoms developed over a number of years and the women have become semi-invalids with neurasthenic symptoms, pain in the pelvis, dysmenorrhea and all the ills of women. A pelvic examination in every one of these cases will elicit the greatest amount of hyperesthesia. The vagina, uterus, tubes, introitus are tender. Every bit of tissue below the brim is tender, presumably due to some intrapelvic condition. The patients have been tamponed and treated and it is almost impossible to convince the attending physician and the patient that the condition is not intrapelvic but due to trouble in the sacroiliac joint. This can be easily proved in a certain number of cases by the relief that comes from good hip support and support of the iliac joint. The period of time that elapses and the persistence with which the treatment must be followed up, the slowness of recovery from the injuries done to the tissues about the sacroiliac joint, and especially to the delicate nerve distribution make the hope of the patient ofttimes drop below par and cause her to think that a mistake in diagnosis has been made. I believe, however, that almost every one of these patients can be cured by the use of the hip bandage, leaving out of the treatment all intrapelvic tinkering and everything addressed to the intrapelvic organs. I have seen women whose ovaries have been removed, who have been curetted and subjected to other operative procedures and yet the pain has persisted.

DR. REUBEN PETERSON, Ann Arbor: I want to speak of just one phase of the subject, not of the difficulty of diagnosis in these cases—although we know that that is hard enough. If one is not fortunate enough to be associated with a competent orthopedic surgeon I have found it most difficult to make a correct diagnosis, for it is by no means a simple matter to say in one case, this is due to pelvic disease, and in another this is the result of sacroiliac disease. Some time ago I looked into the question of the pain my patients experienced after operation. It seemed to me that it was all out of proportion to what it should be, and almost invariably the pain was in the back. I have no doubt that others have had the same experience with patients after operations. Finally, my head nurse suggested that the pain might be due to the patients lying for some time on a hard operating table. At that time we used the ordinary pad seen on most operating tables. This pad was changed to one made like a mattress, between two and three inches thick, and covered with rubber with a sterilized covering over that. Ever since I have employed this kind of pad for my operative work, even in prolonged operations, my patients have not suffered pain in the back. Then I had the pleasure of hearing it scientifically explained by Dr. Goldthwait of Boston, who showed that either in the Trendelenburg or the lithotomy position, when the assistant inadvertently leans on the legs of the patient, strain comes on the sacroiliac joint. Many times we have relieved the pelvic condition but our patients have been worse because of this sacroiliac strain. We are just beginning the study of this complication and it is only by working in conjunction with an orthopedist or studying under him, that the gynecologist can ever make headway in the treatment of pain in the sacroiliac region. Certainly it has opened up a field that the gynecologist never before suspected and the results of such study ought to be of great assistance to our patients.

DR. C. W. BARRETT, Chicago: I recall a case in which with pelvic infection following abortion there was inflammation of the sacroiliac joint, giving marked tenderness on deep pressure over that joint, but more marked tenderness on succussion of the pelvis. Succussion on the trochanters and crests of the ilium gave marked pain in the right sacroiliac joint. The treatment of the pelvic infection caused that to subside, or it subsided, without treatment and the joint recovered from the inflammation without any drainage or any direct treatment for that condition.

DR. MYER SOLIS COHEN, Philadelphia: I think this discussion should not close without mention of Dr. Goldthwait's work regarding the conditions caused by straining of the sacroiliac joints. He shows that by standing in an improper position the curve of the spine is lost, the sacrum tilted backward, and strain put on the sacroiliac ligament. He also shows that the straight front corset and other bad forms of clothing cause lordosis which tilts the sacrum forward, thus also straining the sacroiliac ligaments. He also calls attention to accidents such as falling from horseback as being responsible for this condition.

DR. A. J. WINEBRAKE, Scranton, Pa.: The sacroiliac joint is more abused from ignorance than any other joint in the body. It is much abused by the ignorant practitioner in the application of forceps who has no time to wait and knows nothing of the mechanism of labor. He makes the high application of forceps and pulls with all his brute strength and the patient is rendered practically an invalid, due to injury to this joint and soft parts. This abuse is going on all over the country. In the race for money men have not time to wait in the practice of obstetrics and give Nature a chance. We are taught not to make examinations because there is always danger of infection. This is a grave mistake. An examination can be made with safety if the examiner is as careful in putting the finger into the vagina as in putting it into the abdomen. Something will then be known about the mechanism of labor in the abnormal case. It is surprising how many turns the head will make which cannot be guilded with a pair of forceps. I think that Cesarean section is a simpler operation than high forceps application. The latter operation in my opinion requires more mechanical skill and more good judgment than Cesarean section.

KELOID: A COMPARATIVE HISTOLOGIC STUDY *

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Reduplication of fibroconnective tissue of the skin to the extent of inducing tumor formation of neoplastic character is probably one of the most infrequent of histologic anomalies. This is all the more remarkable when we realize its abundant and universal distribution, the facility and promptness with which it reproduces itself and its constant exposure to insult and injury. Fibroconnective tissue stands in marked contrast, in these respects, to the other elements and structures of the skin, namely, the epidermis, hair follicles, sweat and sebaceous glands. The latter show a more marked tendency to reduplicate themselves to the degree of tumor formation and pathologic overgrowth, and when they are traumatically or pathologically removed or destroyed, with the exception of the epidermis, are prone to be replaced by fibroconnective tissue.

The clearest and probably the purest and most common type of fibroconnective tissue tumor or new growth is keloid. Many pathologic affections of the skin, namely, molluscum fibrosum, multiple fibroid new growths (so called), myofibromata, neurofibromata, angiofibromata, etc., have been erroneously classed with the fibromata and do not possess a clinical or a histopathologic analogy. We occasionally meet circumscribed lesions of pure fibroconnective tissue of varying size, with elevation, consistence, dimensions and definite proportions, either imbedded in the cutis and subjacent tissues, or lying freely on the surface, which are the direct result of the prolonged reaction of the tissues against the presence of a foreign body, or some other form of protracted irritation. These lesions are histologically pure fibromata, but are essentially non-pathologic and non-neoplastic in character, inasmuch as they possess no innate tendencies to enlarge or encroach on healthy areas, but expend their energies against diseased or pathologic agencies of which they are the indirect result. They are not, properly speaking, tumors or new growths in the commonly accepted sense of these terms. The same is true of the hypertrophic cicatrices which are the result of syphilitic, tuberculous and similar processes which primarily or secondarily involve the skin. Inasmuch as they are the indirect result of conservative agencies against pathologic and diseased conditions, they are not fibromata in a pathologic sense, though they possess an identical or indistinguishable histologic structure.

The disposition to divide keloid into true and false, and again to differentiate the latter carefully from hypertrophic and ordinary scar tissue on clinical and histologic grounds, although becoming more and more generally discredited, is still closely adhered to by many authors and investigators. It is generally conceded that the vast majority of keloids develop from pre-existing scar tissue, usually the result of some evident form of traumatism. Not every trauma, even in predisposed individuals, is necessarily followed by keloid, and in many instances keloids develop on areas which have not been the seat of any manifest injury or cicatricial change. This clinical observation has led to the arbitrary division of keloid into true, genuine, spontaneous or idiopathic, on the one hand, and false, spurious, traumatic or cicatricial, on the other. Repeated efforts have been made from time to time to strengthen this clinically empiric division by a differential histopathology, based chiefly on such gross characters as its deep or more superficial origin and location; the preservation or absence of the overlying papillæ, elastic fibers, hair follicles and glandular structures; the firm fibrous or loose cellular character of the growth; the arrangement and distribution of the fibrous bundles; vascular and other changes. Similar studies and investigations have led to a differentiation of false keloid from hypertrophic scar, and the latter from the ordinary depressed scar. Lack of unanimity of clinical opinion and uniformity of pathologic results have led to somewhat divergent views on the subject. The two latest, and in many respects most exhaustive and complete researches on the subject by Max Joseph[1] and Tschlenow[2] take grounds adverse to each other on many of these important points.

Those who oppose the division of keloid, on clinical grounds, into true and false, or spontaneous and cicatricial, maintain that traumatism plays the predisposing though imperceptible rôle (pin-prick, mosquito-bite, scratch effects from seborrheic eczema, etc.) in every case. This assumption is as difficult to prove as to disprove, and is manifestly more arbitrary and less empirical in character than the converse proposition. The remaining clinical features are sufficiently identical to warrant a classification on purely histopathologic grounds. For the purpose of reaching a closer knowledge and a possibly clearer conception of the points of controversy in the keloid question, I have made a comparative histologic examination of seven cases of spontaneous keloid and three cases of false keloid; for a comparative study of general fibrous tissue, in its relation to false and true keloid, I have added one case of soft simple fibroma, two cases of hypertrophic scar, two of atrophic scar, two of scleroderma and two of macular and striated atrophia cutis.

The following, in brief, is the clinical history and description of the cases which enter in the histologic consideration of the paper:

CASE HISTORIES

Case 1.—*False Keloid.*—L. H., negro, aged 30, received an incised wound 1½ inches long over the left arm, midway between shoulder and elbow, in 1897. The wound was sutured, healed by first intention, but promptly became the site of a keloid. In 1900 the keloid, which was elliptical in outline with sharply circumscribed but sloping borders, with its surface transversely traversed with numerous fine rugæ, measured 4 inches in length, 1 inch in breadth, and about ¼ inch in height. Two short "runners" extended from one end and the middle of the lower border, and several isolated nodules were present over the site of the old stitches. The patient presented himself in March, 1909; the keloid in the past nine years had undergone very slight change. The extirpated extremity became the site of a fresh recurrence, in the form of a bifurcated rounded thickened mass. The central portion had undergone an appreciable degree of spontaneous involution. The borders had not enlarged or encroached to any marked degree on normal new areas in the past nine years.

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* Read in the Section on Dermatology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

* This paper is accompanied by twenty illustrations, of which only Figures 1-9 and 17-19 appear in The Journal. All appear in the Transactions of the Section and in the author's reprints.

[1] Joseph, Max: Gutartige Neubildungen, Mracek's Handbuch der Hautkrankheiten, Vienna, 1904, iii, 441; See also articles by Joseph: Arch. f. Dermat. u. Syph., 1899, xlviii, 138; xlix, 277.

[2] Tschlenow: Dermat. Ztschr., 1903, x, 120.

Case 2.—*False Keloid.*—Mrs. S. J., aged 33, full-blooded negress, was cut in 1896 over the middle of left cheek just below the ear, and the wound healed by first intention. It promptly became the site of a keloidal scar, which in 1901 was firm in consistence, rounded and cylindrical in outline; the surface was covered with characteristic rugæ. Several long, characteristic runners extended from the anterior extremity.

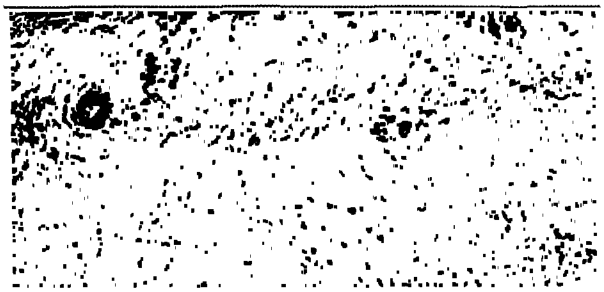
Fig. 1.—False keloid taken from Case 1.

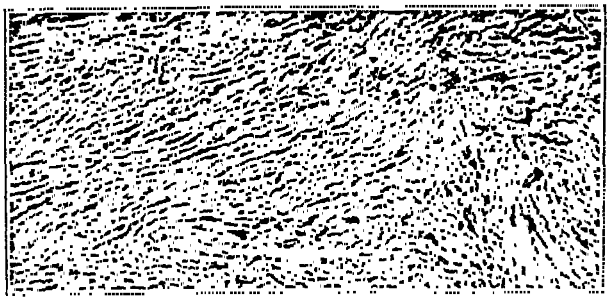
Fig. 2.—False keloid taken from Case. 2.

Case 3.—*False Keloid.*—L. S., aged 18 years, referred by Dr. Bronson of New York, developed several small keloids on the chest from burns incurred in pouring hot tea. The keloids were surgically excised and the resulting incisions, which healed by first intention, together with the stitch holes, became the site of characteristic keloids. Two of these were again extirpated on May 27, 1907.

Case 4.—*True Keloid.*—Mrs. A. J. M., aged 26, developed a spontaneous keloid on the sternum at the age of 15, which was surgically removed by a New York physician in 1907, followed by union with first intention. Recurrence promptly ensued; I extirpated the recurrence on May 16, 1907, within several months of the time of the first operation, and successfully withheld further recurrence by means of ten *x*-ray sittings. On March 5, 1909, on the occasion of a requested visit, the original site of the keloid was occupied by a smooth, white, depressed and scarcely perceptible scar.

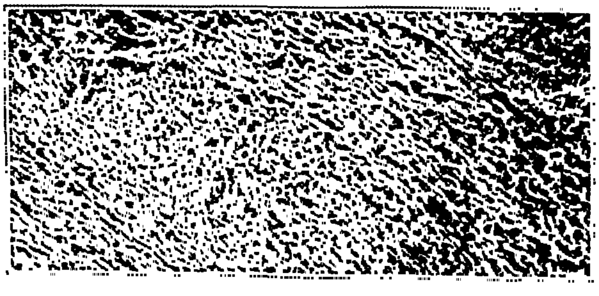
Fig. 3.—False keloid taken from Case 3.

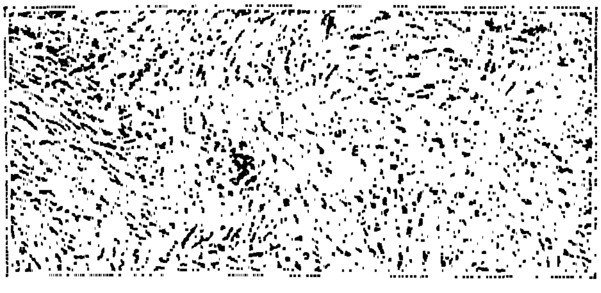
Fig. 4.—True keloid taken from Case 4.

Case 5.—*True Keloid.*—Mr. A. I., aged 62, developed a spontaneous keloid on the left chest near the sternum, the size of a large butter bean, of several months' duration. It was firm in consistency, pinkish in color, non-sensitive to touch or pressure, and free from subjective symptoms, save mild itching. The center was round and elevated, borders sloping and well defined, and surface faintly wrinkled. The lesion was excised January 28 and after eight *x*-ray exposures, no recurrence followed.

Cases 6, 7, 8 and 9.—*True Keloids.*—All spontaneous and of idiopathic origin, of varying duration, one of which was situated on the chest, one on the thigh and the two remaining on the forearm. All were very small, varying from a shot to a bean in size. Surgical extirpation with *x*-ray after-treatment, was not followed by recurrence in a single instance.

Case 10.—*Simple Fibromata.*—Miss C. N., aged 38, presented two small tumors, over the posterior aspect of each arm near the shoulder; the left one, which was about the size of a marble, soft in consistency and somewhat pedunculated, resembled clinically a molluscum fibrosum. The overlying skin was normal in appearance. Its duration was about two years, and its origin spontaneous and non-traumatic in character. The larger lesion was removed Feb. 14, 1909, and the smaller Feb. 21, 1909. A keloidal bluish-red, firm, elevated cicatrix formed at the site of each incision on May 7, 1909, and has already shown a marked tendency to subside under *x*-ray therapy. The histologic structure of both lesions was essentially pure fibrous connective tissue.

Case 11.—*Hypertrophic Scar.*—Miss L. R., aged 26, suffered in girlhood and early youth [illegible] uberculous glands of the neck, which [illegible] the resulting ulcerations became the seat of numerous rough, irregular, hypertrophic scars. Numerous dense, heavy ridges coursed over the affected scars. No active inflammation had been present for the past six or seven years. In 1901 a portion of the most disfiguring area was carefully excised and replaced by a Krause flap.

Case 12.—*Atrophic Scar.*—Mrs. W. B., aged 27, had incurred severe and extensive disfigurement at the hands of a self-styled dermatologist, who applied acid too freely, in July, 1904, for the removal of some facial moles. The deeply depressed cicatrices were extirpated Nov. 7, 1904.

Case 13.—*Hypertrophic Scar.*—Mrs. D. C., white, aged 28, incurred a severe disfiguring hypertrophic cicatrix from the removal of a mole on right of the chin some two years prior to the extirpation, on June 6, 1907.

Case 14.—*Atrophic Scar.*—Mr. H. C. D., aged 52, incurred a smooth, firm, hard cicatrix on the lower lip as a result of an application of arsenic paste for epithelioma some five years prior to the extirpation, which was made on July 11, 1906, to relieve a slight amount of cicatricial irritation.

Case 15.—*Scleroderma.*—A man, aged 50, had multiple circumscribed patches of scleroderma, distributed over the trunk and extremities, of two years' duration.

Case 16.—*Morphea.*—A young girl of 17 had a circumscribed patch of morphea, on the forehead, of six months' duration.

Case 17.—*Macular Atrophia Cutis.*—An unmarried woman of 30 had white spot disease, situated around the base of the neck and upper aspect of the chest.

Case 18.—*Striated Atrophia Cutis.*—A young man of 22 had striated atrophia cutis of several years' duration, abundantly distributed over trunk and extremities.

PRESERVATION OF PAPILLÆ

The clinical observation that many keloids develop from scar tissue, coupled with the fact that papillæ are prone to be destroyed and absent in a cicatrix, has led Kaposi,[3] Warren,[4] Langhans,[5] Joseph, Neumann,[6] Ravogli,[7] Schwimmer[8] and others to differentiate true and false keloid on this basis. Joseph maintains that this observation, original with Warren, must remain a fundamental distinction. Unfortunately, if the basis for this distinction were rational in character, it would fail to hold good for two obvious reasons. First, ordinary scar tissue need not be permanently devoid of papillæ; and, second, papillæ, even when originally present, are prone to disappear in any form of deep-seated new growth, from pressure or distention atrophy.

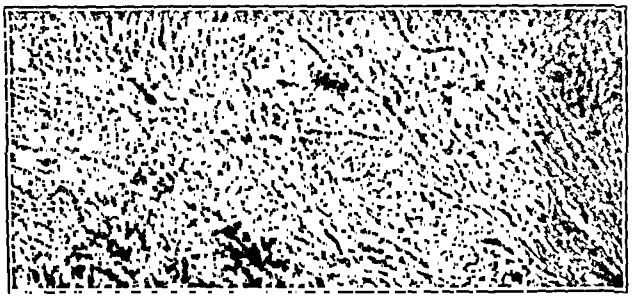

Fig. 5.—True keloid taken from Case 5.

The papillæ were entirely preserved in Case 1 (false keloid), Cases 5, 6, 7, 8 and 9 (true keloid) and in Cases 11 and 13 (hypertrophic scar); they were absent in Case 4 (true keloid) and Case 12 (atrophic cicatrix).

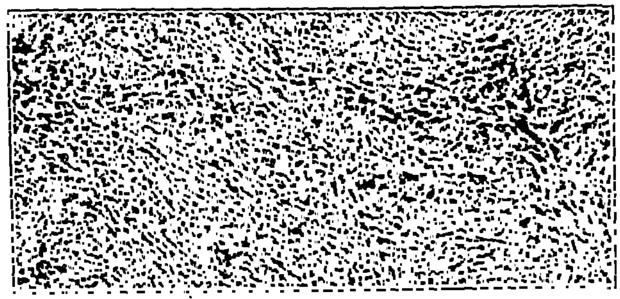

Fig. 7.—True keloid taken from Case 7.

Papillæ were absent in Cases 2 and 3 (false keloid) over areas where the growth reached to and pressed closely on these structures and were normally preserved so long as they remained separated by a comparatively narrow margin of normal connective tissue.

ENCAPSULATION AND LOCATION

It is maintained that true keloid has a deeper origin (Kaposi, Schütz,[9] Goldmann,[10] Joseph and others) in contrast to the more superficial location and development of false keloid, and is surrounded and separated from the overlying papillæ by a well-defined capsule (Joseph and others) of normal connective tissue.

Cases of false keloid (Nos. 1 and 3) and true keloid (No. 4) had a superficial location, and were surrounded with a fairly well-marked capsule of connective tissue, whereas true keloids (Cases 5 and 8), with a similar location, were without a well-defined capsule. False keloid (Case 2) had a deep location and a well-defined capsule, and true keloids (Cases 6, 7 and 9), with a similar location, were devoid of capsules. True keloid (Case 8), as already stated, possessed a superficial location and no encapsulation. The lesion in this case, relatively the smallest in size and the one of shortest duration, was situated on the forearm. Serial sections were made and the point of origin, as nearly as could be determined, was the fibrous envelope of a hair follicle. The orifice of the follicle in question was preserved; the remainder possessed but a semblance of its former structure, and was encompassed by bundles of fibrocellular tissue which somewhat preserved in their primary distribution the general contour of the follicle and its obliterated sebaceous gland; innumerable smaller bundles branched from the sides of the structure, intertwined or curled on themselves, and extended laterally in all directions and in the main parallel to the surface of the skin.

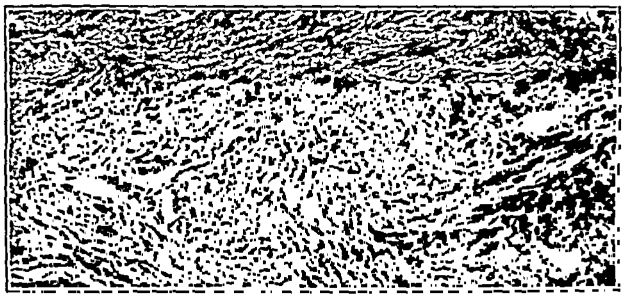

Fig. 6.—True keloid taken from Case 6.

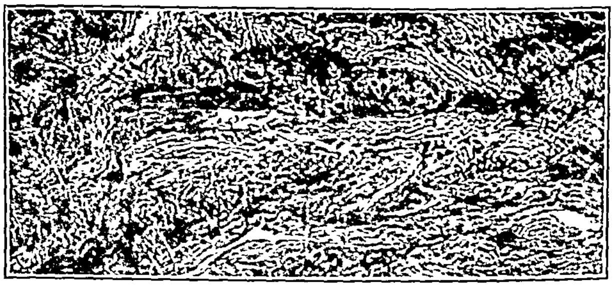

Fig. 8.—True keloid taken from Case 8.

PRESERVATION OF ELASTIC FIBERS

Much significance has at times been attributed to the presence or absence of elastic fibers in keloids. Their constant absence in keloid, and repeated presence in regenerated scar tissue, of sufficient standing, have induced some authors (Joseph, Meissner,[11] Kromeyer) to maintain that histologic differentiation is tenable on their presence or absence. Furthermore, the atrophic character of scar tissue has been attributed in a few instances to the restraining influence of elastic fibers, when present, and the hypertrophic character, when absent.

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[3] Kaposi: Arch. f. Dermat. u. Syph., xxxix, 11; xlii, 135.

[4] Warren: Sitzungsb. d. Akad. d. Wissensch., Vienna, 1868, lvii, 401.

[5] Langhans: Virchows Arch. f. path. Anat., 1867, xl, 332.

[6] Neumann: Arch. f. Dermat. u. Syph., xxix, 123.

[7] Ravogli, A.: Monatsh. f. prakt. Dermat., 1896, xxii, 624; A False or Cicatricial Keloid, The Journal A. M. A., 1904, xliii, 297.

[8] Schwimmer: Arch. f. Dermat. u. Syph., 1880, xii, 225.

[9] Schütz: Arch. f. Dermat. u. Syph., xxix, 25.

[10] Goldmann: Monatsh. f. prakt. Dermat., xxxiii, 439.

[11] Meissner: Dermat. Ztschr., iii, 182.

Elastic fibers were constantly absent except in Case 10 (simple fibroma) and Cases 15 and 16 (multiple patches of circumscribed scleroderma and morphea). They were present at the immediate confines of the growth in many instances, namely, Cases 3, 4, 7, 11, 13 and 17. In Case 9 (small true keloid of forearm) they were abundantly present between the growth and the epidermis. They were uniformly absent in true and false keloid, and in atrophic and hypertrophic scar tissue, irrespective of their duration and development. Their presence in Case 10 (simple fibroma) did not check the elevation and hypertrophic development of these lesions, which were slightly pedunculated, and their absence was constant in every atrophic cicatrix and lesion except in Case 10 (soft fibroma), already mentioned, and Cases 15 and 16 (multiple circumscribed scleroderma).

ARRANGEMENT AND DISTRIBUTION OF THE FIBROUS BUNDLES

It is maintained (Joseph, Warren, Kaposi, Berliner[12] and others) that in true keloid the dense bundles of fibrous tissue possess a more or less regular and systematic distribution, and are arranged in the main parallel to the surface of the epidermis. This arrangement was observed in only one case of true keloid (Case 4), and only as regards the lower strata of fibers. The arrangement, however, was observed in false keloid (Cases 2 and 3). In Case 2 the lower strata were irregularly interlaced; and in Case 3 masses of bundles were separated by fibrous septa. The interlaced character of the bundles, which is commonly attributed to false keloid, was manifest only in Case 1. A very irregular indefinite arrangement of the fibrous bundles, in which they curled on themselves and branched and crossed each other at random, occurred in Cases 5, 6, 7, 8 and 9 (true keloid), in Case 10 (simple fibroma) and Cases 15 and 16 (scleroderma). Bundles were evenly arranged and parallel to the surface of the epidermis in Cases 11 and 13 (hypertrophic scar) and in Cases 12 and 14 (ordinary irregular and depressed scars).

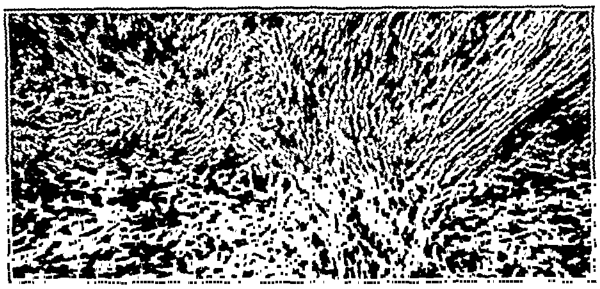
Fig. 9.—True keloid taken from Case 9.

FIBROCELLULAR CHARACTER

It is sometimes maintained (notably by Babes[13] and Joseph) that true keloid can often be histologically differentiated from false by its more cellular character, the shortness of its fibers, which are frequently reduced in length to mere spindles, the relatively larger nuclei, and by the presence of endothelial cells and remnants of partially obliterated blood vessels. It is conceded that there are marked variations between the extremes in both classes: that the variation in cellular and fibrous character depends, to some extent, on the duration of the process; the more recent the process the richer its cellular character. These are the chief points which are embraced in this histopathologic differentiation. All the specimens were similarly prepared and stained, and the most characteristic area of each was photographed under the same magnification. The photographic records confirmed the theory that a histologic cellular differentiation was quite impossible. False keloids (Cases 1 and 2) were rich in cells, with large oval distinct nuclei and rather short well-defined spindles; the same structure was approximated in the ordinary scar following the removal of a mole, in Case 13, and in true keloids (Cases 7, 8 and 9). In false keloid (Case 3) the structure was almost purely fibrous in character. The structure was almost purely fibrous in the remaining cases of true keloid, with a somewhat varying predominance of interspersed spindle-shaped cells, with small and indistinct nuclei. True keloid (Cases 4, 5, 7, 8 and 9) showed a somewhat more cellular and in Case 6 an almost pure fibrous structure. An absolute differentiation of false from true was not possible and a deceptive similarity of structure attained in all the cases of true and false keloid, and hypertrophic and simple scar. Hypertrophic scar (Case 11) and ordinary scar tissue (Case 13) were purely fibrous or almost purely fibrous in structure. The case of ordinary scar following application of arsenic paste was rather cellular in type. The duration and long standing of the process seemed to exercise little influence in determining the cellular or fibrous character of a lesion, cases of five to twelve years' or longer duration, being often more cellular in type than similar lesions of relative short (months) duration.

In only two instances (Cases 15 and 16, scleroderma) did the fibrous tissue approximate normal collagenous connective tissue in structure and appearance, and assumed its peculiar undulating and wavy character. Normal connective tissue in its characteristic state was abundantly present at the confines of most of the lesions examined. The lesions in white spot disease and striæ atrophicæ were wavy and undulating in appearance, but failed to show the peculiar reticulated network of interlacing fibrils constantly manifest in normal connective tissue, and which stamps it with an unmistakable and characteristic histologic individuality.

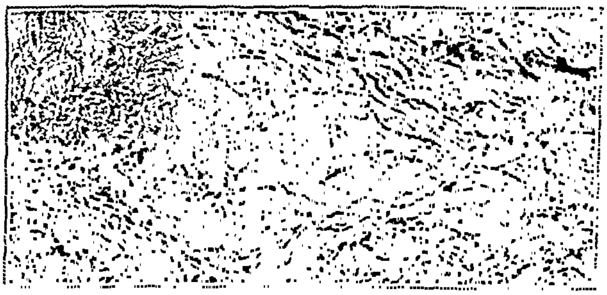
Fig. 17.—Simple fibroma.

PRESERVATION OF HAIR FOLLICLES, SWEAT AND SEBACEOUS GLANDS

Hair follicles undergoing obliteration were observed in only two cases (Nos. 6 and 8). Both were small spontaneous keloids of relatively short duration. Sweat glands in a fair state of preservation were found in Case 10 (soft simple fibroma). Normal or almost normal hair follicles were found conserved in close proximity to the growths, in false keloid (Cases 1 and 3) and spontaneous keloid (Cases 6 and 7); sebaceous glands in proximity to false keloid (Case 1); and sweat glands in proximity to false keloid (Cases 1 and 3), and spontaneous keloid (Case 6). In false keloid (Case 1) sweat glands were normally preserved below the keloid.

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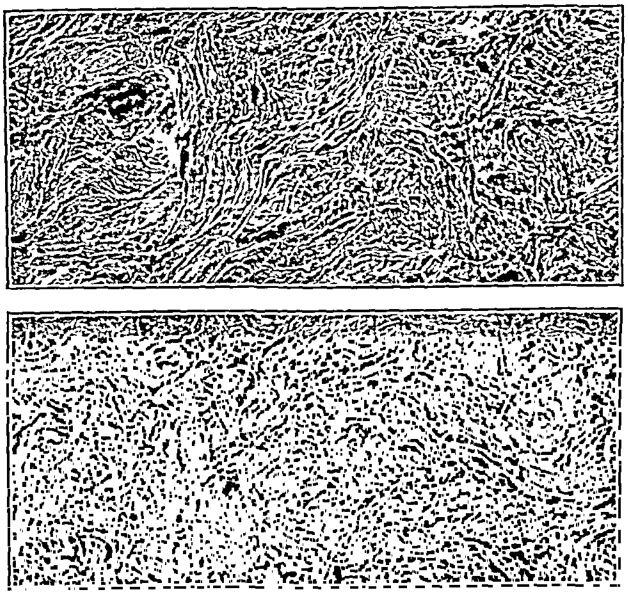
[12] Berliner: Monatsh. f. prakt. Dermat., 1902, xxxiv, 321.
[13] Babes: Arch. f. Dermat. u. Syph., 1880, xii, 237.

EXTENSION ALONG BLOOD VESSELS

The careful study and examination could in nowise confirm the original and amply affirmed observation of Warren (Collins, Unna,[14] Kaposi, Joseph, Neuermann, Crocker,[15] Freund[16] and others), that the extension of keloid can be readily traced along the course of the adjacent blood vessels, and that the latter were pathologically altered and surrounded with plastic exudate for some distance from the pathologic area. Nearly all the specimens showed vascular congestion and round-cell infiltration about the smaller capillaries, but not more than one would reasonably expect to encounter in any pathologic process of similar character and proportions. Some thin-walled, newly formed capillaries were observed in the body of many of the growths, but other vascular changes appeared to be purely inflammatory and secondary in character, due to direct involvement and extension on the part of the growth, and not *vice versa.* Growth and extension seemed to occur by reduplication and multiplication of the pathologic cell, and mitosis and cell division and transition to fibrous tissue was a matter of common observation. The early and marked involvement of hair follicles in several cases, and the apparent development of the small spontaneous lesion in Case 8, as observed from serial sections, have led me to believe that the fibrous envelope of glandular elements is a more probable cause than the fibrous coats of blood vessels. This is also in a measure strengthened by a confirmation of Thorn's observation[17] that keloid is free from involuntary muscular fiber. The tendency for keloid to become self-limited in its clinical growth, and not to involve the deeper subcutaneous structures, also speaks strongly against a vascular origin and an extension along blood vessels. The involvement of blood vessels seems to be not a primary process, but a secondary one due to the dirct independent extension of the body of the growth proper. In this way the blood vessels become invaded and involved, in the same manner as the hair follicles, sudoriferous and sebaceous glands and other specialized structures of the skin.



Figs. 18 and 19.—Ordinary collagenous connective tissue in the neighborhood of two cases of keloid.

SUMMARY

Briefly recapitulated and summarized, the essential observations gleaned from the histologic study of the enumerated cases are as follows:

1. The preservation of the *papillæ* does not differentiate true or spontaneous keloid from false keloid or from hypertrophic and atrophic scar tissue. They were found absent in spontaneous keloid and preserved in false keloid and found regenerated in cicatricial tissue. In this respect the claims of Kaposi, Warren, Joseph, Ravogli, and others are refuted.

2. A deep location does not differentiate true keloid from false. Three out of six cases of true or spontaneous keloid possessed a superficial location; and one case out of three of false keloid had a deep location. The claims of Kaposi, Joseph, Schütz and Goldmann are in this respect refuted.

3. Preservation of the capsule was not indicative of true keloid; most of the cases of spontaneous keloid were devoid of well-defined capsules, and all of the false cases possessed fairly well-defined capsules.

4. Absence of elastic fibers does not differentiate true keloid from false, or either of these from cicatricial tissue. It was found uniformly absent in all of these structures. Its absence does not serve to differentiate keloids from fibromata in general if a soft simple fibroma comes into that category. Elastic fibers were also found preserved in the fibrous structures of two cases of scleroderma. I share the views of Tschlenow as opposed to those of Joseph, Kromeyer, Meissner and others on the futility of this histologic differentiation. No regeneration of elastic fibers in scar tissue was observed in any of the cases.

5. The absence of elastic fibers is not an etiologic factor in the hypertrophic character of keloid as maintained by Ravogli and Goldmann. Their absence was noted in the depressed lesions of striated and macular atrophy and depressed cicatrices, and their presence in a simple soft fibroma did not inhibit the hypertrophic character of the gross lesion.

6. The contention of Warren, Kaposi, Joseph and Berliner, that the fibrous bundles of true keloid preserve in the main a longitudinal arrangement, parallel to each other and to the surface of the skin, in contradistinction to the interlaced character of false keloid, is controverted in five out of six cases of spontaneous keloid, and in two out of three cases of false keloid. The interlaced character was observed in simple soft fibroma and scleroderma, and the parallel arrangement was observed in ordinary scar tissue.

7. A differentiation of true from false keloid, and the former from hypertrophic and atrophic scar tissue, as maintained by Dieberg,[18] Kaposi, Schimmer, Joseph and others, was not tenable. Joseph's contention that old keloid is more fibrous and new keloid more cellular could not be confirmed. A deceptive non-differentiable similarity of structure obtained in true and false keloid, and hypertrophic and simple scar tissue. All these structures could be easily differentiated histologically from normal collagenous connective tissue, which was present in close proximity to the majority of the examined lesions.

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[14] Unna: Histopathologie, 1894.

[15] Crocker: Brit. Med. Jour., Sept. 18, 1886.

[16] Freund: Arch. f. Dermat. u. Syph. (Festschr. Kaposi), 1900.

[17] Thorn: Arch. f. klin. Chir., 1896, li, 619.

[18] Dieberg: Deutsch. Klinik, 1852, No. 33.

8. A deceptive similarity in histologic structure exists between scleroderma and normal collagenous connective tissue.

9. The differentiation of true from false keloid by the preservation of hair follicles and glands, which are neither pushed aside nor subject of pressure atrophy (Volkmann,[19] Joseph and others) was negated. The relatively few glands which were encountered occurred in equal measure in false and true keloid, and were pushed aside and subject to atrophic changes.

10. No origin could be traced to the adventitia or primary extension along the blood vessels of the corium, as maintained by Collins, Joseph, Unna, Kaposi, Neumann, Crocker, Wilms,[20] Dénériaz,[21] Freund and others, and denied by Thorn and Reiss.[22] The apparent origin in one case from a hair follicle, and the marked and prompt involvement of the glandular structures leads me to share the views of Berliner and Kirsch,[23] of the probable origin of keloid from these structures.

11. There seems to be as little basis for the assumption that trauma must play the causative rôle in every case of keloid (Jadassohn,[24] Schütz, Tschlenow, Besnier,[25] Barthelemy Hutchinson,[26] Unna and others) as that of attempting a successful histologic differentiation on the same grounds (Kaposi, Warren, Langhaus, Ravogli, Neumann, Schwimmer, Joseph and others). An idiopathic or spontaneous etiology must be conceded to some of the cases of keloid, as long as these terms find a general acceptance for other affections.

12. A differentiation of true and false keloid is not possible on clinical or histologic grounds; the differentiation of keloid in general from scar tissue is not possible on histologic grounds. Keloid and scar tissue can be histologically differentiated from normal collagenous connective tissue.

19 West Seventh street.

Note.—In addition to the authorities cited above, the following may be consulted:

Herzog, Maximilian: Extensive Multiple Keloids, The Journal A. M. A., 1907, xlviii, 1844.
Kohn (Kaposi): Wien Med. Wchnschr., 1871, Nos. 24-26.
Roger: Brit. Med. Jour., 1884, p. 667.
Soffiantini: Glor. ital. d. mal. ven. e. d. pelle, 1893.
Fischer: Ein Beitrag zur Kentniss des Keloids, Monograph, Munich, 1889.
Welander: Nord Med. Arch., 1893, iii, 14.

ABSTRACT OF DISCUSSION

Dr. W. A. Pusey, Chicago: It was grateful to my desire to see generalizations in our groups of dermatoses, to hear the opinion expressed by Dr. Heidingsfeld that there is no essential difference histologically between hypertrophic scars and keloid; that is in the interest of simplification and decidedly in the direction that we hope dermatology will go. I am strongly of the opinion that there is no essential difference between hypertrophic scars and keloids, the difference being one simply of degree.

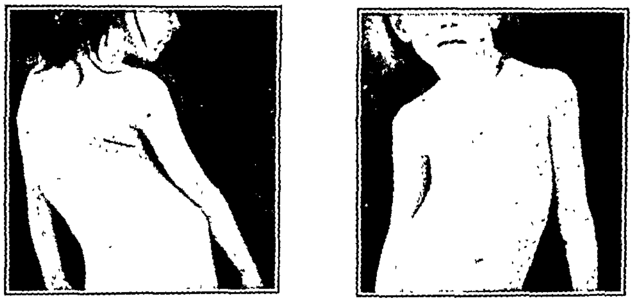
Dr. Maximilian Herzog, Chicago: About two years ago I published the report of cases of multiple keloid in Chinamen who were addicted to the morphin habit. I also at that time expressed the opinion that there was no essential difference between the so-called idiopathic and the acquired or traumatic keloid. In the cases I reported, the keloidal growths all followed the slight traumatism inflicted by the puncture of the hypodermic needle. Histologically, it is impossible to differentiate sections from the so-called idiopathic and from traumatic keloids. I can therefore fully subscribe to the opinion expressed by Dr. Heidingsfeld in his paper.

PERSISTENT THORACIC SINUS FOLLOWING EMPYEMA

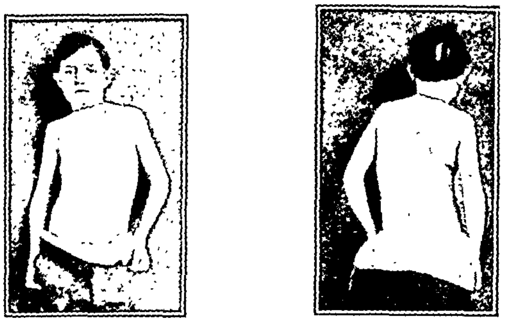
A REPORT OF FIFTEEN CASES TREATED BY DECORTICATION OF LUNG AND THORACOPLASTY *

CHARLES N. DOWD, M.D.
Attending Surgeon to the General Memorial Hospital and to St. Mary's Free Hospital for Children
NEW YORK

The persistent sinuses which occasionally follow pyothorax have long brought annoyance and perplexity to surgeons and ill health and disappointment to patients. Thoracoplasty has usually been tried for their relief, with varying degrees of success, and since Fowler[1] in 1893 and De Lorme[2] three months later, dissected away the constricting pulmonary pleura their operation of "lung decortication" has attracted considerable attention. This operation has become rather more firmly established on the continent of Europe than here and has been used by many surgeons. Bergeat[3] has recently made a very complete report of the subject from Dr. Sick's clinic in Hamburg, where the Schede operation was first elaborated: lung decortication was here done seven times in the treatment of twenty-one cases of persistent empyema, and it was done more commonly in the later than in the earlier cases. It was always done in conjunction with more or less resection of the chest wall and its value is appreciated. Jordan,[4] Kurpjurorit[5] and Bayer[6] may be mentioned among the others



Figs. 1 and 2.—Extreme deformity following lung collapse of two years' duration, Case 11.



Figs. 3 and 4.—[illegible] six weeks after an operation for relief of [illegible] Case 13. The extreme lung compression [illegible] pyema of two months' duration. The extreme chest contraction followed the failure of the lung to expand.

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[19] Volkmann: Arch. f. klin. Chir. (Langenbeck's), 1872, xiii, 394.
[20] Wilms: Beitr. z. klin. Chir., xxiii, No. 1.
[21] Dénériaz: Etude sur la chéloide, Monograph, Paris, 1887.
[22] Reiss: Arch. f. Dermat. u. Syph., lvi, 325.
[23] Kirsch: Arch. f. Dermat. u. Syph., 1906, lxxviii, 255.
[24] Jadassohn: Centralbl. f. Chir., 1896, No. 50.
[25] Besnier and Doyon: Transl. Kaposi's Text-Book of Skin Diseases (annotations).
[26] Hutchinson: Medical Times, May, 1885.

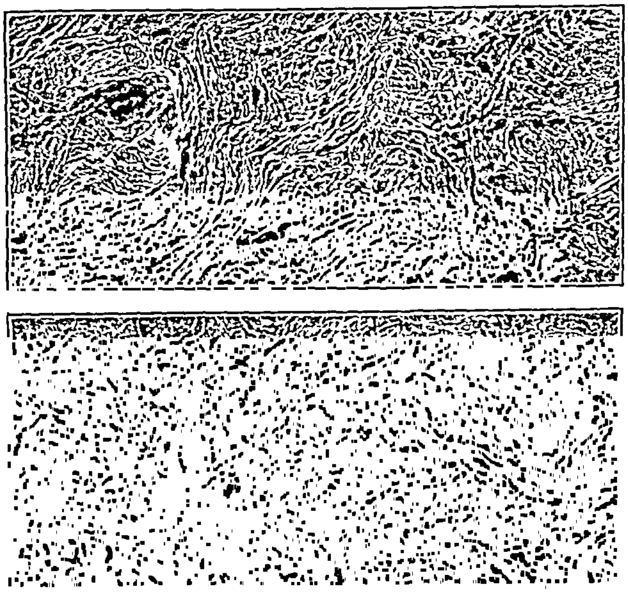
* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Fowler: N. Y. Med. Rec., Dec. 30, 1893.
[2] De Lorme: Gaz. d. hôpitaux, 1894, No. 11.
[3] Bergeat: Beitr. z. klin. Chir. (Bruns'), lvii, 373.
[4] Jordan: Beitr. z. klin. Chir. (Bruns'), xxxiv, 554
[5] Kurpjurorit: Beitr. z. klin. Chir. (Bruns'), xxxiii, 79.
[6] Bayer: Centralbl. Chir., 1908, No. 1.

glands in proximity to false keloid (Case 1); and sweat glands in proximity to false keloid (Cases 1 and 3), and spontaneous keloid (Case 6). In false keloid (Case 1) sweat glands were normally preserved below the keloid.

EXTENSION ALONG BLOOD VESSELS

The careful study and examination could in nowise confirm the original and amply affirmed observation of Warren (Collins, Unna,[14] Kaposi, Joseph, Neuermann, Crocker,[15] Freund[16] and others), that the extension of keloid can be readily traced along the course of the adjacent blood vessels, and that the latter were pathologically altered and surrounded with plastic exudate for some distance from the pathologic area. Nearly all the specimens showed vascular congestion and round-cell infiltration about the smaller capillaries, but not more than one would reasonably expect to encounter in any pathologic process of similar character and proportions. Some thin-walled, newly formed capillaries were observed in the body of many of the growths, but other vascular changes appeared to be purely inflammatory and secondary in character, due to direct involvement and extension on the part of the growth, and not *vice versa.* Growth and extension seemed to occur by reduplication and multiplication of the pathologic cell, and mitosis and cell division and transition to fibrous tissue was a matter of common observation. The early and marked involvement of hair follicles in several cases, and the apparent development of the small spontaneous lesion in Case 8, as observed from serial sections, have led me to believe that the fibrous envelope of glandular elements is a more probable cause than the fibrous coats of blood vessels. This is also in a measure strengthened by a confirmation of Thorn's observation[17] that keloid is free from involuntary muscular fiber. The tendency for keloid to become self-limited in its clinical growth, and not to involve the deeper subcutaneous structures, also speaks strongly against a vascular origin and an extension along blood vessels. The involvement of blood vessels seems to be not a primary process, but a secondary one due to the dirct independent extension of the body of the growth proper. In this way the blood vessels become invaded and involved, in the same manner as the hair follicles, sudoriferous and sebaceous glands and other specialized structures of the skin.



Figs. 18 and 19.—Ordinary collagenous connective tissue in the neighborhood of two cases of keloid.

SUMMARY

Briefly recapitulated and summarized, the essential observations gleaned from the histologic study of the enumerated cases are as follows:

1. The preservation of the papillæ does not differentiate true or spontaneous keloid from false keloid or from hypertrophic and atrophic scar tissue. They were found absent in spontaneous keloid and preserved in false keloid and found regenerated in cicatricial tissue. In this respect the claims of Kaposi, Warren, Joseph, Ravogli, and others are refuted.

2. A deep location does not differentiate true keloid from false. Three out of six cases of true or spontaneous keloid possessed a superficial location; and one case out of three of false keloid had a deep location. The claims of Kaposi, Joseph, Schütz and Goldmann are in this respect refuted.

3. Preservation of the capsule was not indicative of true keloid; most of the cases of spontaneous keloid were devoid of well-defined capsules, and all of the false cases possessed fairly well-defined capsules.

4. Absence of elastic fibers does not differentiate true keloid from false, or either of these from cicatricial tissue. It was found uniformly absent in all of these structures. Its absence does not serve to differentiate keloids from fibromata in general if a soft simple fibroma comes into that category. Elastic fibers were also found preserved in the fibrous structures of two cases of scleroderma. I share the views of Tschlenow as opposed to those of Joseph, Kromeyer, Meissner and others on the futility of this histologic differentiation. No regeneration of elastic fibers in scar tissue was observed in any of the cases.

5. The absence of elastic fibers is not an etiologic factor in the hypertrophic character of keloid as maintained by Ravogli and Goldmann. Their absence was noted in the depressed lesions of striated and macular atrophy and depressed cicatrices, and their presence in a simple soft fibroma did not inhibit the hypertrophic character of the gross lesion.

6. The contention of Warren, Kaposi, Joseph and Berliner, that the fibrous bundles of true keloid preserve in the main a longitudinal arrangement, parallel to each other and to the surface of the skin, in contradistinction to the interlaced character of false keloid, is controverted in five out of six cases of spontaneous keloid, and in two out of three cases of false keloid. The interlaced character was observed in simple soft fibroma and scleroderma, and the parallel arrangement was observed in ordinary scar tissue.

7. A differentiation of true from false keloid, and the former from hypertrophic and atrophic scar tissue, as maintained by Dieberg,[18] Kaposi, Schimmer, Joseph and others, was not tenable. Joseph's contention that old keloid is more fibrous and new keloid more cellular could not be confirmed. A deceptive non-differentiable similarity of structure obtained in true and false keloid, and hypertrophic and simple scar tissue. All these structures could be easily differentiated histologically from normal collagenous connective tissue, which was present in close proximity to the majority of the examined lesions.

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[14] Unna: Histopathologie, 1894.
[15] Crocker: Brit. Med. Jour., Sept. 18, 1886.
[16] Freund: Arch. f. Dermat. u. Syph. (Festschr. Kaposi), 1900.
[17] Thorn: Arch. f. klin. Chir., 1896, li, 619.
[18] Dieberg: Deutsch. Klinik, 1852, No. 33.

8. A deceptive similarity in histologic structure exists between scleroderma and normal collagenous connective tissue.

9. The differentiation of true from false keloid by the preservation of hair follicles and glands, which are neither pushed aside nor subject of pressure atrophy (Volkmann,[19] Joseph and others) was negated. The relatively few glands which were encountered occurred in equal measure in false and true keloid, and were pushed aside and subject to atrophic changes.

10. No origin could be traced to the adventitia or primary extension along the blood vessels of the corium, as maintained by Collins, Joseph, Unna, Kaposi, Neumann, Crocker, Wilms,[20] Dénériaz,[21] Freund and others, and denied by Thorn and Reiss.[22] The apparent origin in one case from a hair follicle, and the marked and prompt involvement of the glandular structures leads me to share the views of Berliner and Kirsch,[23] of the probable origin of keloid from these structures.

11. There seems to be as little basis for the assumption that trauma must play the causative rôle in every case of keloid (Jadassohn,[24] Schütz, Tschlenow, Besnier,[25] Barthelemy Hutchinson,[26] Unna and others) as that of attempting a successful histologic differentiation on the same grounds (Kaposi, Warren, Langhaus, Ravogli, Neumann, Schwimmer, Joseph and others). An idiopathic or spontaneous etiology must be conceded to some of the cases of keloid, as long as these terms find a general acceptance for other affections.

12. A differentiation of true and false keloid is not possible on clinical or histologic grounds; the differentiation of keloid in general from scar tissue is not pos- [illegible] Keloid and scar tissue can [illegible] from normal collagenous [illegible]

19 West Seventh street.

Note.—In addition to the authorities cited above, the following may be consulted:

Herzog, Maximilian: Extensive Multiple Keloids, The Journal A. M. A., 1907, xlviii, 1844.
Kohn (Kaposi): Wien Med. Wchnschr., 1871, Nos. 24-26.
Roger: Brit. Med. Jour., 1884, p. 667.
Soffiantini: Gior. ital. d. mal. ven. e. d. pelle, 1893.
Fischer: Ein Beitrag zur Kentniss des Keloids, Monograph, Munich, 1889.
Welander: Nord Med. Arch., 1893, iii, 14.

ABSTRACT OF DISCUSSION

Dr. W. A. Pusey, Chicago: It was grateful to my desire to see generalizations in our groups of dermatoses, to hear the opinion expressed by Dr. Heidingsfeld that there is no essential difference histologically between hypertrophic scars and keloid; that is in the interest of simplification and decidedly in the direction that we hope dermatology will go. I am strongly of the opinion that there is no essential difference between hypertrophic scars and keloids, the difference being one simply of degree.

Dr. Maximilian Herzog, Chicago: About two years ago I published the report of cases of multiple keloid in Chinamen who were addicted to the morphin habit. I also at that time expressed the opinion that there was no essential difference between the so-called idiopathic and the acquired or traumatic keloid. In the cases I reported, the keloidal growths all followed the slight traumatism inflicted by the puncture of the hypodermic needle. Histologically, it is impossible to differentiate sections from the so-called idiopathic and from traumatic keloids. I can therefore fully subscribe to the opinion expressed by Dr. Heidingsfeld in his paper.

PERSISTENT THORACIC SINUS FOLLOWING EMPYEMA

A REPORT OF FIFTEEN CASES TREATED BY DECORTICATION OF LUNG AND THORACOPLASTY *

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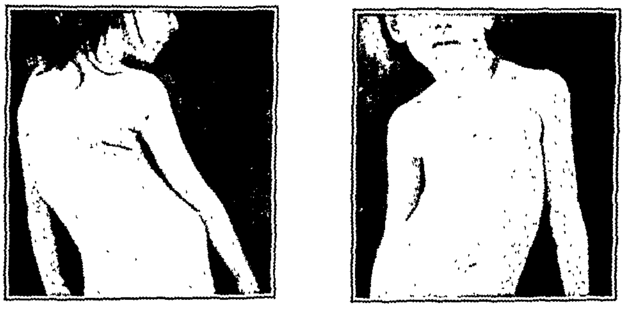
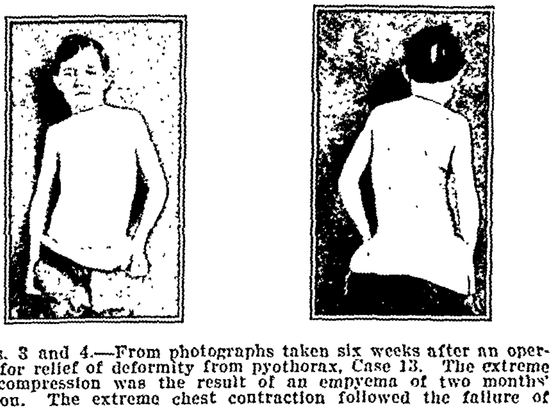
NEW YORK

The persistent sinuses which occasionally follow pyothorax have long brought annoyance and perplexity to surgeons and ill health and disappointment to patients. Thoracoplasty has usually been tried for their relief, with varying degrees of success, and since Fowler[1] in 1893 and De Lorme[2] three months later, dissected away the constricting pulmonary pleura their operation of "lung decortication" has attracted considerable attention. This operation has become rather more firmly established on the continent of Europe than here and has been used by many surgeons. Bergeat[3] has recently made a very complete report of the subject from Dr. Sick's clinic in Hamburg, where the Schede operation was first elaborated: lung decortication was here done seven times in the treatment of twenty-one cases of persistent empyema, and it was done more commonly in the later than in the earlier cases. It was always done in conjunction with more or less resection of the chest wall and its value is appreciated. Jordan,[4] Kurpjurorit[5] and Bayer[6] may be mentioned among the others



Figs. 1 and 2.—Extreme deformity following lung collapse of two years' duration, Case 11.



Figs. 3 and 4.—From photographs taken six weeks after an operation for relief of deformity from pyothorax, Case 13. The extreme lung compression was the result of an empyema of two months' duration. The extreme chest contraction followed the failure of the lung to expand.

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[19] Volkmann: Arch. f. klin. Chir. (Langenbeck's), 1872, xiii, 394.
[20] Wilms: Beitr. z. klin. Chir., xxiii, No. 1.
[21] Dénériaz: Etude sur la chéloide, Monograph, Paris, 1887.
[22] Reiss: Arch. f. Dermat. u. Syph., lvi, 325.
[23] Kirsch: Arch. f. Dermat. u. Syph., 1906, lxxviii, 235.
[24] Jadassohn: Centralbl. f. Chir., 1896, No. 50.
[25] Besnier and Doyon: Transl. Kaposi's Text-Book of Skin Diseases (annotations).
[26] Hutchinson: Medical Times, May, 1885.

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Fowler: N. Y. Med. Rec., Dec. 30, 1893.
[2] De Lorme: Gaz. d. hôpitaux, 1894, No. 11.
[3] Bergeat: Beitr. z. klin. Chir. (Bruns'), lvii, 3
[4] Jordan: Beitr. z. klin. Chir. (Bruns'), xxx
[5] Kurpjurorit: Beitr. z. klin. Chir. (Bruns'),
[6] Bayer: Centralbl. Chir., 1908, No. 1.

in the series
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who advocate the method. Many French surgeons have advocated the procedure since the publication of De Lorme's classical article.

A review of the American surgical literature of the last ten years shows fewer contributions to the subject than one would expect, although Ransohoff[7] has contributed a very practical method of liberating the pulmonary pleura, and Ferguson[8] has recorded seven cases in which he dissected away the sinus walls.

CASES ON WHICH THIS REPORT IS BASED

Within the last nine years I have employed the procedure coupled with thoracoplasty in fifteen cases, all but one of them in St. Mary's Free Hospital for Children. The average age of the St. Mary's Hospital patients was 5½ years; the fifteenth patient was an adult. In seven of these patients the primary empyema operation had been done elsewhere. The remaining eight persistent sinuses occurred among a total of 186 cases of empyema, thus indicating an expectation of about 4 per cent. of such sinuses in the empyema cases as they are referred to us in New York. The average lapse of time between the primary opening of the chest and the secondary lung decortication and thoracoplasty was fifteen months.

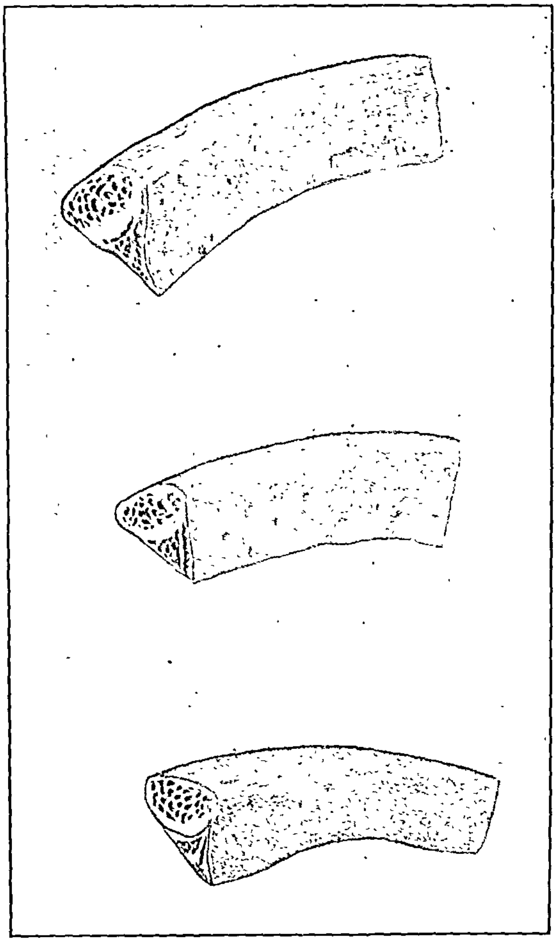


Fig. 5.—Rib compression and formation of new bone on inner surface of rib, due to Nature's effort to bring the chest-wall into apposition with the collapsed lung, Case 13.

Un TYPE OF CASES SUITABLE FOR OPERATION

15. Crock
16. Freund nt always been easy to determine when an
17. Thorn: A ld be advised for an unhealed pyothorax.

Sinuses which are accompanied by little deformity or suppuration may be treated for long periods without operation and will frequently close and leave very good lung function. Ochsner's recent report[9] of fourteen such cases treated by the aid of Beck's bismuth paste is very instructive, and his results are most satisfactory. In the selection of cases suitable for such treatment one may well remember the possibility of bismuth remaining as a foreign body within the chest cavity and follow Ochsner's example in applying the method only to cases with well formed sinuses.

On the other hand, sinuses which are coupled with excessive deformity and disturbing suppuration should be treated by operation while there is still a possibility of obtaining lung expansion; delay for them may be disastrous. Failure of lung expansion gives the key to the situation.

CHANGES WHICH ACCOMPANY PERSISTENT LUNG COLLAPSE

When the lungs fail to expand a distressing deformity results. Nature apparently abhors an empty chest. Figures 1 and 2 depict an extreme instance of this deformity; it occurred during the two years' non-operative treatment of a persistent empyema sinus. The original empyema operation had consisted of the removal of a short piece of the eighth rib in the posterior axillary line. The deformity shown in Figures 3 and 4 occurred within six weeks after a similar operation for extreme, neglected pyothorax.

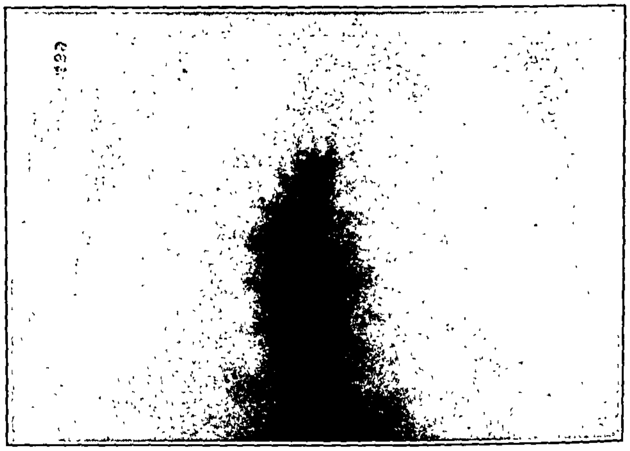


Fig. 6.—Radiograph showing the chest contraction and lateral spinal curvature in Case 13.

The changes in these cases may be summarized as follows:

1. Position of shrunken lung is against the mediastinum in the upper part of the chest.
2. There is lateral curvature of spine with concavity toward the affected side.
3. There is crowding of ribs on each other, so that the intercostal spaces are obliterated, their vertical diameters are lessened, and a new deposit of bone is found on their inner sides (Fig. 5).
4. There is bulging of diaphragm into the chest and against the lower ribs, the apposition sometimes including the sixth rib.
5. There is formation of firm exudate, which becomes so incorporated with the pleura that it seems like a pleural thickening. This is much thicker on the costal than on the pulmonary pleura.

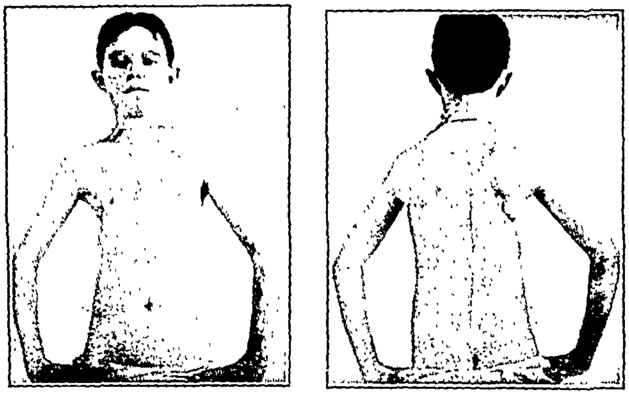
Surg., April, 1906.
Surg. Assn., 1909.

[9] Ochsner: Ann. Surg., July, 1909, p. 151.

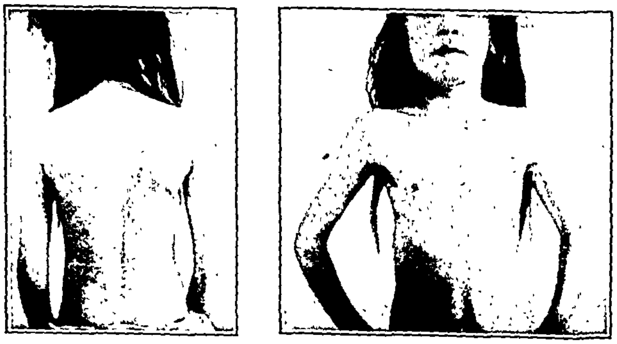
6. There is formation of a firm walled sinus which leads from the opening in the chest wall to the apex of the pleural cavity, usually about large enough to hold one finger and sometimes much larger.

METHOD OF OPERATION

Ether anesthesia was used, the patient lying on the sound side. "Orientation" incision was made about the sinus opening, with resection of 3 or 4 inches of the rib above and the one below it, thus learning the size and direction of the sinus. The incision was then carried upward, usually in the anterior axillary line to the third rib. The ribs were divided and suitable portions removed, usually ½ inch from the second or third, 4 to 6 inches from the tenth, and corresponding pieces from the intermediate ones. Sometimes much less was taken away.


Figs. 7 and 8.—Result in Case 13, two years after operation.

With suitable retraction an excellent view of the sinus is thus obtained. A longitudinal incision is then made through the upper part of the sinus wall until the lung is reached. At this stage of the procedure the patient is allowed so nearly to emerge from the anesthesia that he will cough, when the lung usually bulges into the incision. The membrane is then separated from its surface over as large an area as is practicable and removed. In most of these cases a strip 2 or 3 inches long and from 1 to 2½ inches wide has been removed. This represents somewhat more than the pulmonary portion of the sinus lining. The chest wall was nearly brought together by strong sutures and a drain or suction tube inserted in the unclosed part.

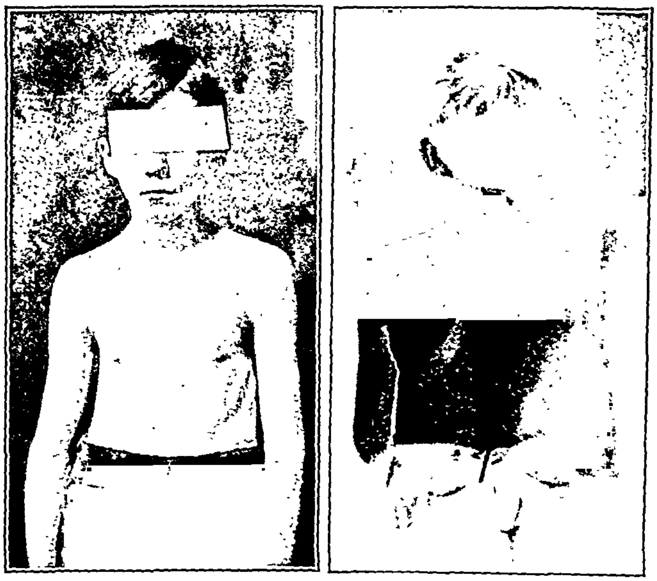

Figs. 9 and 10.—Result in Case 9, four and a half years after operation.

VARIATIONS

The amount of chest wall which was removed differed materially in the various cases and was dependent on the likelihood of gaining lung expansion. In one of the cases so little was resected that the operation could hardly be called thoracoplasty, and the lung expanded so as to fill the chest. The degree of chest-wall resection is indicated in some of the accompanying illustrations, which show the final results. In three of the cases in which additional operations were necessary, the lung was found collapsed against the mediastinum and could not be made to expand; it looked dark and spongy and had none of the pinkish inflated appearance which had been noted in other cases. On incising it, air whistled through it, but it showed no tendency to expand. For such cases Ferguson dissects away the fibrous lining of the apex and side walls of the sinus, for the purpose of obtaining an extensive surface for the production of new granulation.

AFTER-TREATMENT

Persistent and continued blowing on James' (or Wolf's) bottles has been used in every case. Negative pressure by means of Cotton's and other apparatus has been used in two cases. The pneumatic cabinet has not been used.


Figs. 11 and 12.—Result in Case 1, nine years after operation.

Judging from the appearance of the lung when the patient coughs, the writer believes that the expansive power which accompanies forcible blowing is very great; greater than is obtained from the other measures. Early and continued physical exercise is encouraged.

RESULTS

The results of this procedure are very encouraging. Twelve of the fifteen patients are in excellent health at the time of this report, or at the last observation; from a few months to nine years after operation, with varying degrees of chest expansion and chest capacity, and without lateral curvature of the spine. One of these twelve has a small sinus, but this sinus causes so little disturbance that he is unwilling to have anything done for it. One patient having a healed chest and nearly erect carriage lived seven years after the operation and then died of "dropsy." One patient has died of tuberculosis. One patient died a few days after her operation. This was the only operative death in the series and occurred in the patient whose excessive deformity is shown in Figures 1 and 2. She was taken from the

TABULATED ABSTRACTS OF CASE HISTORIES

No.	Age.	Hosp. No.	Side.	Date of primary operation for empyema.	Date of operation for lung constriction, and deformed chest wall.	Date of discharge from hospital.	Remarks.	Results.
1	5	102	L	2/ 8/1900	5/23/1900	7/30/1900	The primary lung compression was excessive; the pus having perforated the chest wall.	Examined March 10, 1909; erect, in good health; a champion tennis player in Van Cortlandt Park; circumference of right side of chest 2 inches less than left; good respiratory power.
2	4	B100	R	8/14/1900	10/25/1900	....	Lung expansion at operation unsatisfactory. Tuberculosis present.	Died Dec. 9, 1900, from tuberculosis.
3	8	C34	L	10/../1897	11/15/1900	2/25/1901	Case complicated by tuberculosis in pleura and axilla. Two operations had been done between October, 1897 and November, 1900. Small sinus persisted till March, 1902 and then healed firmly.	Seen March, 1909; in good health; erect carriage; circumference of left side of chest 1¾ inches less than right; good respiratory murmur.
4	7	287 888	L	4/../1900 ?	4/19/1901 5/ 8/1903	10/ 2/1901 6/23/1903	At both operations very great lung compression. Worse at second than at first.	Enjoyed good health, with chest healed and nearly erect carriage till 1908, then died of "dropsy."
5	4	909	L	1901	5/ 8/1903	7/25/1903	Lung did not expand well after decortication but sinus healed.	Reported in good health summer 1908.
6	3	1054 1209	L	12/17/1902	4/17/1903 1/ 4/1904	9/16/1903 1/31/1904	Extreme collapse of lung found at both operations. Good healing obtained.	Seen January 1905 and picture taken; erect and in good health; considerable contraction in left side of chest; good respiratory murmur; sinus firmly healed.
7	28	9988*	L	1899	6/11/1903	7/ 4/1903	Extreme lung collapse. Capacity of chest cavity about Oiii. Lung dark red and showed no tendency to expand.	Letter March, 1909, states "in best of health" working hard and eating and sleeping well; small sinus still present.
8	5	988 1311	L	12/ 4/1902	2/19/1904 2/27/1905	9/15/1904 3/30/1905	Was in country branch of the hospital between the two operations in good health but with small sinus.	May, 1909, in excellent health; erect carriage; sinus healed.
9	6	1529	R	3/21/1904	6/ 3/1904	8/ 4/1904	Sinus large enough to hold two fingers healed promptly. (Within two months.)	Examined Dec. 5, 1908; good health; erect; circumference of left side of chest 1¾ inches less than right; good respiratory murmur and good mobility.
10	6	305 1617	R	9/20/1901	7/ 1/1904	9/15/1904	Diaphragm at about the level of 5th rib. Lung much contracted. Prompt healing after decortication.	Seen winter 1905; in good health; erect.
11	8	1677	R	9/../1902	9/23/1904	9/25/1904	Extreme deformity—see Fig. 1. Lung about 1/6 its normal capacity.	Child removed from hospital by parents and died a few days later.
12	4	3472	R	1/../1907	4/ 5/1907 6/10/1907	7/ 9/1907	Lung extremely collapsed; found with difficulty; expanded after decortication when child coughed.	Seen December, 1908; well nourished; strong; erect; circumference of right chest 1¼ inch less than left; good respiratory murmur; a little later a small sinus opened which healed after operation.
13	12	3587 4739	R	4/ 2/1907	5/16/1907 9/19/1908	8/20/1907 10/10/1908	Empyema of two months' standing before chest first opened; lung could not be felt by finger in chest cavity. Rapidly progressing deformity at time of first decortication; see Fig. 3. Prompt healing, but sinus opened just before second decortication and then healed again.	March 10, 1909; circumference of right side of chest 3½ inches less than left; good respiratory murmur; is erect and in good health; see Figs. 7 and 8.
14	6	4556	R	6/ 2/1908	9/11/1908 3/26/1909	12/20/1908 6/12/1909	Lung extremely collapsed but bulged well on coughing; sinus persisted; another operation followed by good healing.	Report Aug. 1, 1909; good condition; sinus healed.
15	4	5549	R	11/20/1908	2/23/1909	4/14/1909	Lung expanded so well on coughing that ribs were fastened together with hardly any resection.	June 5, 1909; in good condition; erect; good respiratory murmur.

* General Memorial Hospital

hospital by her parents two days after her operation, while doing reasonably well, and died a few days later in her insanitary tenement surroundings.

PROPHYLAXIS

Prompt relief of pyothorax before lung compression takes place is the best way of preventing persistent sinuses. When a chest is opened for empyema an inch and a half of the eighth rib may be removed in the posterior axillary line. The finger may be inserted to remove coagula and to determine the position of the lung. The lung will usually expand at this time if the anesthesia is withdrawn and the patient allowed to cough. If the lung does not expand, adhesions may be very carefully started with the finger.

In the after-treatment, blowing exercises and suction apparatus and active physical exercise are desirable.

SUMMARY

So far as deductions can be drawn from this group of cases, they indicate the following:

1. Persistent thoracic sinus can be cured by decortication of lung and resection of the chest wall in 80 to 90 per cent. of the cases.
2. After operation the patient will not have lateral curvature of the spine.
3. The lung capacity on the affected side will remain much diminished.
4. Nearly all the patients are in good health and are not materially inconvenienced by this restricted lung capacity.
5. The mortality from the operation is probably more than 5 per cent. and less than 10 per cent.

ABSTRACT OF DISCUSSION

Dr. Emil G. Beck, Chicago: Resection of the chest wall for suppurative old sinuses should be reserved for old cases in which all other treatment has failed, as it is a procedure which will cause great deformity. A report from Dr. Ochsner of Chicago was presented before the American Surgical Association recently on fourteen patients who were treated with 33 per cent. bismuth-vaselin paste. Twelve of these sinuses are healed and 2 are much improved. Of my own patients, 13 sinuses were treated with this paste and 11 are closed, 1 patient is continuing the treatment, and 1 died. The latter had first been operated on unsuccessfully, then received this treatment, which also had no effect, and then was operated on again and died shortly after this operation. By this very simple procedure, without risk to the patient, 80 per cent. of these patients can be cured without operation. There is, however, danger of bismuth poisoning, which may be obviated if the physician will watch the cases. I have had but one case in which I saw distinct symptoms of bismuth poisoning and in that case I prevented further absorption by dissolving the paste with warm olive oil and then removing the bismuth. I have also tried as a prophylactic method the injection of a 5 per cent. bismuth-vaselin paste and all the sinuses closed without fever within ten days.

Dr. C. G. Kerley, New York: If there are any other means that would give better results than the methods suggested by Dr. Dowd, I will be glad to know of them. I have used the Bier method and seen it employed in several cases, without any striking results. Vaccine therapy has been used during the past year or two, usually with indifferent results. I have not had much success with the James bottle. It is looked on as a toy. The child will blow vigorously for a few days and then it is difficult to make him use it further. I have had much better results in expanding the lung in the use of different forms of exercise. One of these is carried on by putting a towel around the sound side of the chest, tying the towel or bandage to some stable object, and allowing the child to rest his weight in the towel, thus compressing the sound lung, at the same time breathing deeply in order to bring the diseased lung into action. Giving the child three exercise periods daily of ten minutes each has been followed by surprising success in my cases. Later, any exercise that will make the child breathe deeply is to be advocated.

Dr. Linnaeus E. LaFetra, New York: I have had the same experience with the blow bottle that others report; but there has been devised within the last year or two a little toy pipe with a rubber bag attached at the bowl to imitate a soap bubble. Children take much pleasure in blowing up these rubber bubbles to see how large they can be made. Other rubber bags are made in the form of animals, and much exercise results from using such devices. In the last three years I have seen two of the cases described by Dr. Dowd in which the results are most satisfactory. The lung will expand during the operation when the child coughs or makes a forced expiration.

Dr. Abraham Jacobi, New York: I have had the same difficulties in dealing with fistulas that have been described. The bismuth paste may probably fill up many of these fistulas. I have had fistulas up to eleven inches in length to deal with and I have had to operate after injections of tincture of iodin had failed. I have relied on iodin and it always failed. In the common run of empyema cases no one would think of employing this method, but in bad cases, in which adhesions are great, what would this operation and positive pressure do?

Dr. C. N. Dowd, New York: In my paper I incorporated references to his work and the results of Dr. Ochsner's treatment, and stated there that this method is to be tried before operation is resorted to. One may, however, select the cases in which it is to be used. When used in unsuitable cases, the bismuth has sometimes remained in the chest as a foreign body and has helped to keep the sinus open. When Dr. Beck's method and other methods fail, when the spinal curvature is increasing or has already reached an extreme degree, when expansion of the lung is prevented by its firm fibrous envelope and when the chest contraction is excessive, we have the suitable condition for the operation which I have described, and in certain instances of steadily progressing deformity it may be used before this full deformity has been reached. In the cases here reported, the average lapse of time between the primary empyema operations and the lung decortication was fifteen months—too long a time.

The method has been spoken of as producing deformity. It should, however, be referred to as preventing deformity and restoring the erect posture. The greatest deformity comes from Nature's effort to bring the chest wall into opposition with a collapsed lung. After thoracoplasty and lung decortication the erect posture is regained. This has been noted for years after the Schede operation.

Some form of negative pressure has been used in several of these cases. It can be maintained satisfactorily, but its results have been disappointing. That positive pressure is effective is shown by having the patient so lightly narcotized that he will cough and expand the lung at the time of the primary operation and later the toys to which Dr. Kerley has referred and the blow bottles are very useful. The special field of the pneumatic cabinet seems to be in other conditions than empyema. The increased pressure which is ordinarily used is not greater than the difference between the atmospheric pressure in the lower and upper floors of a high building and this is not sufficient to overcome the adhesions of a confined lung—not so great as the coughing or toys or bottles give. I know of one fatality which occurred in its use which would probably not have occurred had the anesthetist been in satisfactory communication with the operator.

Care of Children.—In education and religion, and in the principles of good citizenship, the child is the key to the problem. If we are to have literary men and women we must begin with children. By far a large majority of those noted for their strength of character have formed that character before 16 years of age. The best citizens are those who have instilled into their minds the principles of good citizenship during childhood.—Marion Hull, in *Annals of Medical Practice*.

Clinical Notes

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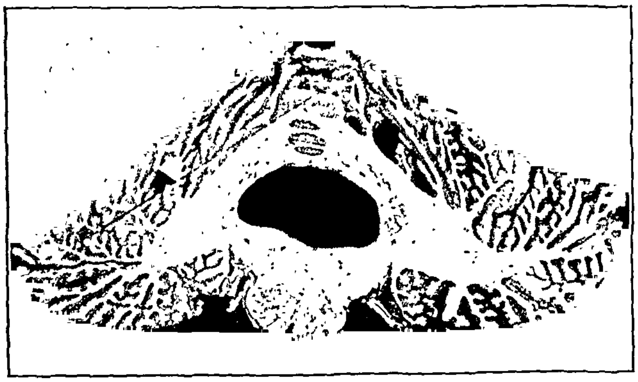

Fig. 1.—Stained section of the cerebellum and medulla showing the degree of the dilatation of the fourth ventricle, and the displacement and compression of the dentate nuclei.

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The second point of particular interest in this case was the character of the cerebellar incoordination. During the period of his stay in the hospital (about four weeks), and no doubt for some time before his admission, the disequilibration became progressively worse, and from the first to the last was characterized by a constant tendency to fall directly backward, never to the right nor left. Physiologic experiments on animals (cited by Morat) teach us that destruction of the vermis, or bilateral destruction of the cerebellar hemispheres, will cause forcible extension of the head, opisthotonos, anteroposterior movements of oscillation, etc. Unilateral lesions of the cerebellum or its peduncles produce turning movements of various kinds and degrees, and in coordination on the same side of the body. Clinical experience confirms these experiments, but movements directly backward are very seldom observed, probably because central lesions of the vermis, and exactly symmetrical lesions of the cerebellar hemispheres, rarely occur. The incoordination in this case, together with other signs of intracranial neoplasm, led to a diagnosis of a tumor of the vermis.

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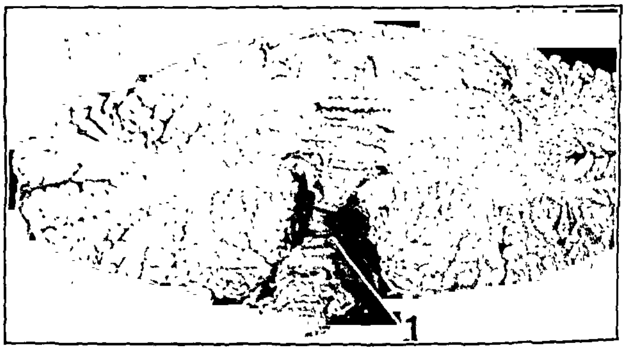

Fig. 2.—Part of the cerebellum removed showing site of the occluded foramen of Magendie (1) externally.

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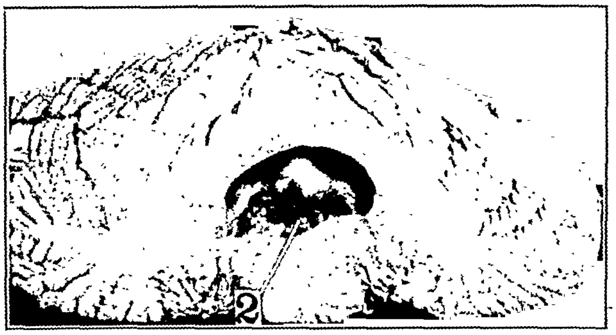

Fig. 3.—Section through the cerebellum and the medulla showing the matted condition (2) of the choroid plexus at the site of the occluded foramen of Magendie.

5249 Spruce Street.

The Prevalence of Fleas on Rats and Squirrels.—Previous observations made under government auspices have shown the occurrence of plague in the ground squirrel. The conveyance of plague from rodent to rodent by means of the flea has been proved and it has been shown that the fleas that ordinarily infest rats and also those infesting squirrels will bite man. The possibility of the agency of the ground squirrel in spreading the plague to man is therefore shown. G. W. McCoy and M. B. Mitzmain, in *Public Health Reports*, July 16, 1909, give the results of further investigations in this direction. Rats and squirrels were combed to determine the varieties and average number of fleas which they harbor. While the large majority of fleas are found associated with their proper hosts, it was found that rat fleas occasionally infest squirrels, and vice versa. It has been shown that the rat will live in perfect harmony with squirrels in captivity. The average number of fleas found on a rat varied from 4.7 in one series to 7.6 in another. Live ground squirrels yielded a larger average, 34. Mice, rabbits, skunks and other similar animals were also found to be infested. The nests of rats were found to harbor more fleas than the animals themselves. By placing rats in cages with squirrels, and vice versa, it was shown that an interchange of fleas took place, indicating that fleas from rodents readily adapt themselves to hosts of different species.

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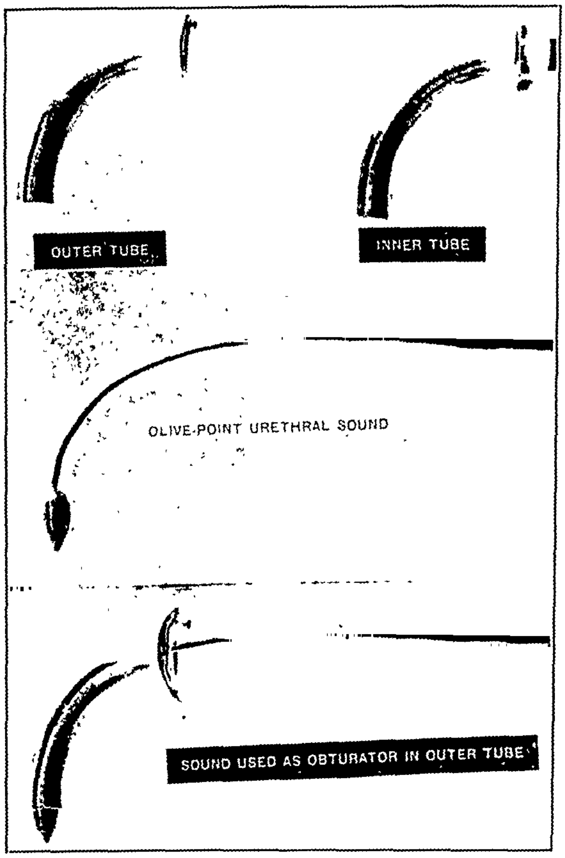
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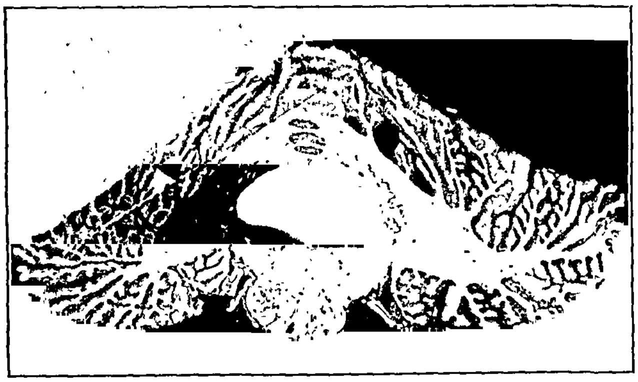

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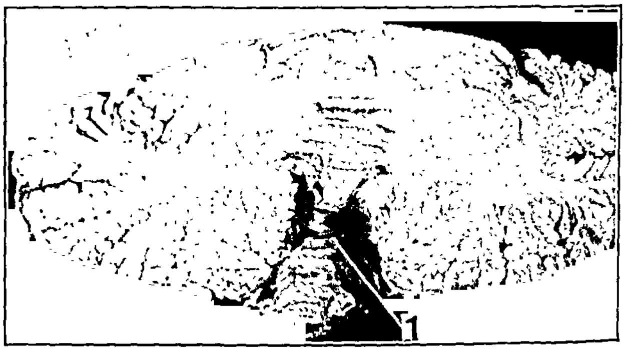

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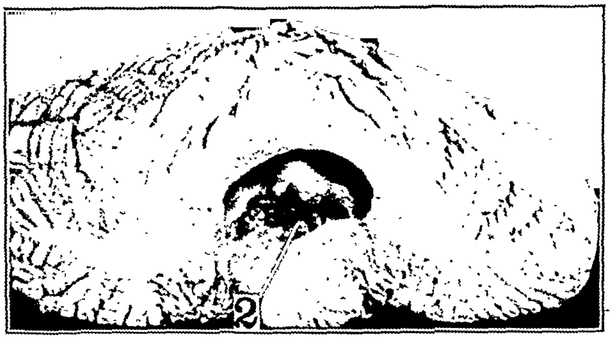

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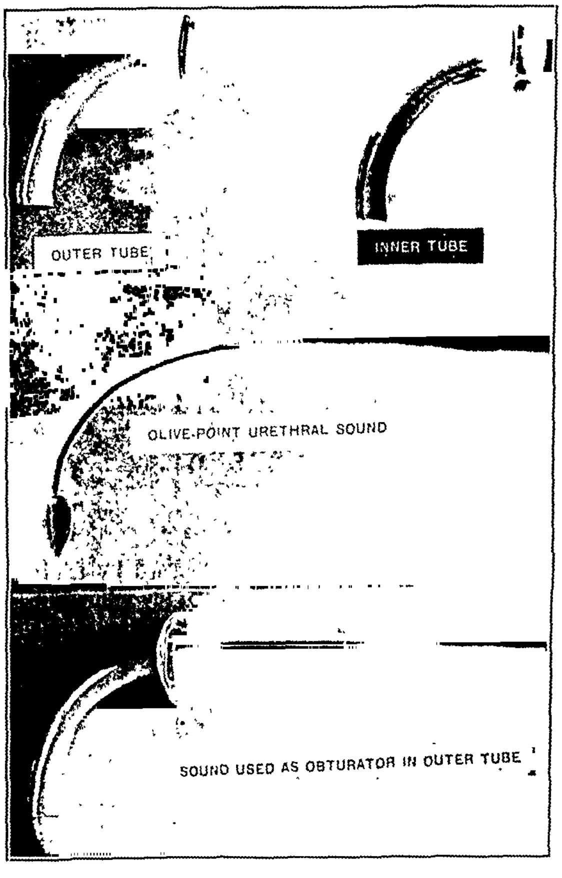
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BOWING OF THE SHAFT AS A CORRECTIVE MEASURE IN DEFORMITIES OF THE UPPER EXTREMITY OF THE FEMUR

EDWARD A. RICH, M.D.
TACOMA, WASH.

A class of deformity presents itself rather frequently to the orthopedist offering unusual difficulties on account of actual loss of bony tissue. Reference is made to those cases of absent epiphyses caused by acute suppurative arthritis, epiphysitis or tuberculous disease. The head of the femur is the common seat of such a lack. There presents, also, in the femur, abnormal deviations of the axis of the head and neck with the axis of the shaft, giving coxa valga, etc. For example, Figure 1 shows a defect in the femoral head due to arthritis; Figure 2 shows a typical case of coxa valga.

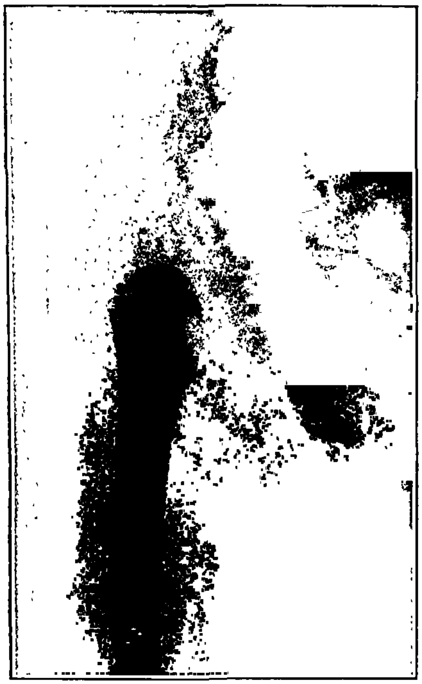


Fig. 1.—Femur, presenting deformity resulting from congenital arthritis (Case 1).

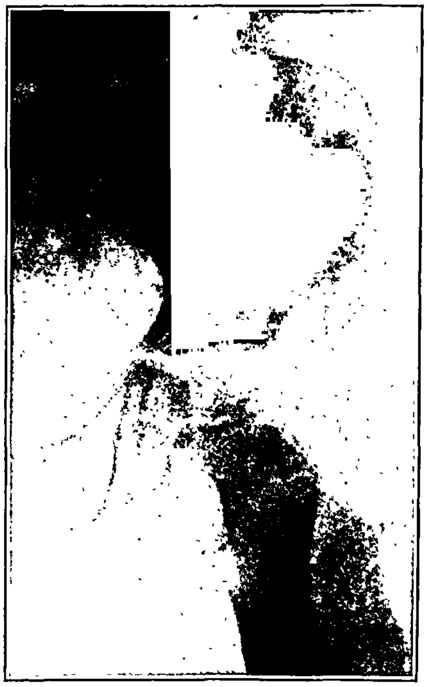


Fig. 2.—Case coxa valga; common type causing limp only (Case 2).

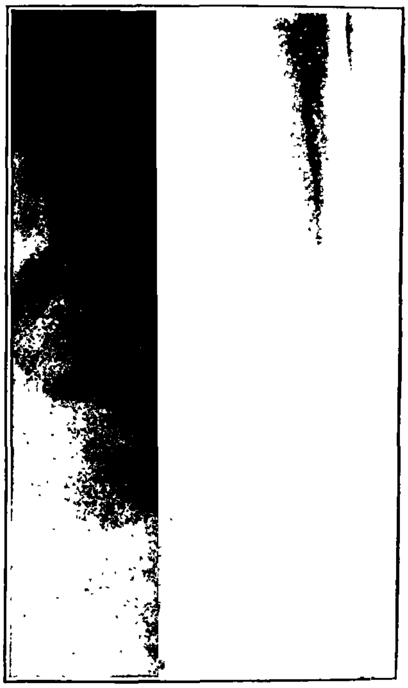


Fig. 3.—Result of femoral bowing in coxa valga (Case 3).

The question as to treatment has ever been a vexatious one, and authorities are apt to hedge. Lorenz advocates ankylosing the top of the femur to the acetabulum, but ankylosis is almost impossible in the very young. As a matter of fact, the results of these atypical cases have been far from satisfactory. Acknowledging that the idea was forced on me purely by an accident, let me report the results of a new mode of treatment, consisting in the bowing of the femur by artificial means so that it may maintain a position in the hip capable of performing function. Also let me report the results of the utilization of the same idea in other conditions at the femoral head. In coxa valga, bowing is used as a substitute for osteotomy.

A glance at the Figures 4 to 7 will show the purpose of the bowing. In weight-bearing the upward forces resolve themselves into the longitudinal and the lateral forces; the mean in any direction being the resultant. When by accident or deformity the direction of the resultant force falls in the lower half of the arc of the acetabulum we notice a tendency to dislocation, usually outward at first and then upward. When, however, the direction of the resultant pierces the upper half of the arc, as it does in the normal hip, this tendency to misplacement does not exist. Cuneiform osteotomies have endeavored to alter the direction of the resultant. For the same purpose I have bowed the femur. Of course, the method would be practicable only in childhood.

Case 1.—Girl, aged 3, presented to me in February, 1908, with history of an acute arthritis (suppurative) during first two months of infancy. Evidence of sinus in gluteal region and history of much discharge. Sinus closed end of second

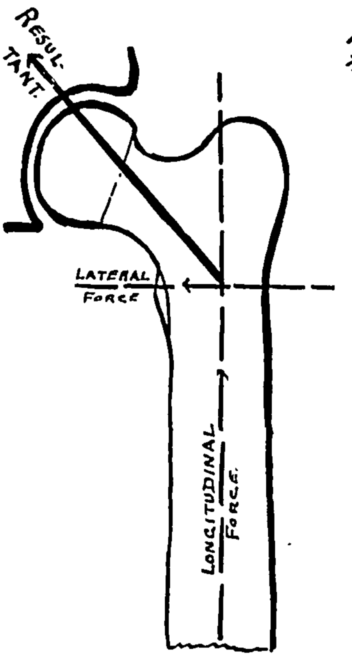


Fig. 4.—Diagram of normal hip, showing natural forces of weight-bearing and natural resultant.

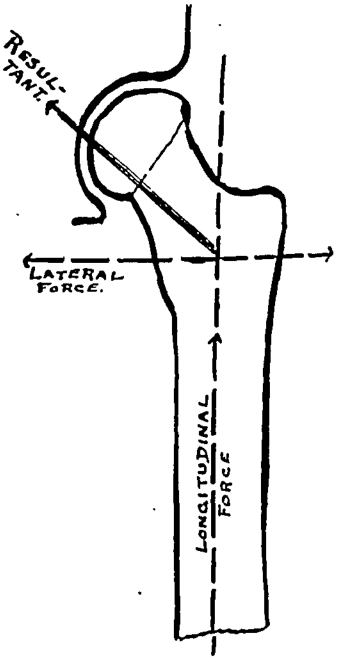
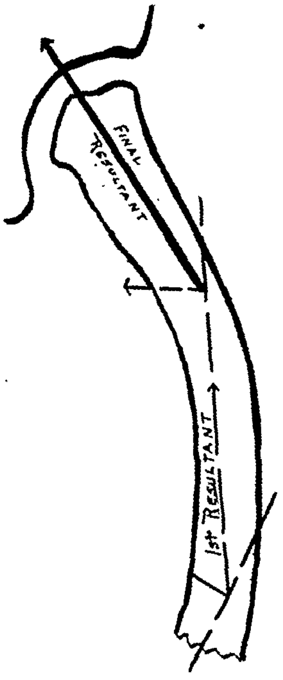


Fig. 5.—Diagram of hip in coxa valga, showing direction of resultant force with tendency increased to dislocation.

month. Only symptom noticed by parents was the limp that accompanied walking. The femur presented the appearance shown in Figure 1. The head was absent and dislocation was considerable.

When confronted with this condition in a child so young, I determined to reduce the dislocation and temporize by maintaining the thigh in extreme abduction, encasing in plaster as after the congenital hip replacements. This was done, the plaster including the knee, and the child returned home. An infectious disease in the home prevented her from returning to the city for three months. On her return I found, on the removal of the cast, that the child's rapid growth had bent the femur outward very markedly. My chagrin was lightened by the idea that such a bowing might be utilized to compensate for the lost angle at the femoral neck. Another cast was snugly applied and worn for two months. On the removal of this second cast I was delighted when the leg was adducted to note that considerable motion entirely failed to redislocate the hip. For the last six months or more I have retained the thigh in considerable abduction in a plaster spica and the knee straight but still maintaining the femoral bowing. I allow constant weight-bearing and have had no tendency to misplacement whatever.



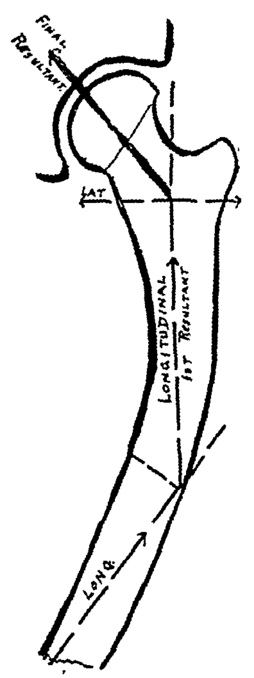


Fig. 6.—Diagram of hip in epiphysitis with loss of femoral head; femur bowed, showing final result of bowing.

Fig. 7.—Diagram of hip in coxa valga with bowed femur, showing forces of weight-bearing modified by bowing of shaft, with direction of consequent resultant.

CASE 2.—Girl, aged 4; history unimportant except that right-sided limp had been present on weight-bearing since child learned to walk. No pain or other symptoms whatever. Radiograph (Fig. 2) shows coxa valga deformity with angle of 165 degrees. Cuneiform osteotomy was refused. Rather than resort to fixation in abduction I decided to try bowing of the femur. In four months I had produced an artificial bowing outward by applying a tight-fitting round-and-round plaster, the thigh flexed and abducted to right angles with the body. When sufficient bow was produced the patient was freed of splints and under observation weight-bearing was allowed. There is no shortening. The limp disappeared and walking is normal.

CASE 3.—The essential points in the history of this case of coxa valga are illustrated in the history of Case 2. Figure 3 shows the result.

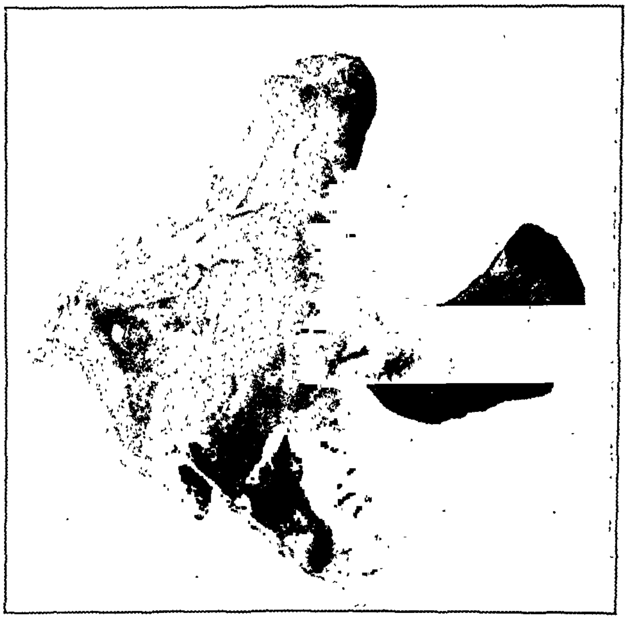
Provident Building.

SHOT IN THE APPENDIX VERMIFORMIS *

H. S. MARTLAND, M.D.
NEWARK, N. J.

History.—J. D., male, aged 30, was admitted to the surgical division of the City Hospital, service of Dr. E. R. Haussling, suffering from an acute appendicitis, which he had had for two days. The patient was immediately operated on, and the appendix, which had not ruptured, was removed. A localized abscess developed, which drained well. The patient left the hospital in twenty days cured.

Appendix.—The appendix measureed 5 cm. in length; its outer two-thirds was triangular in shape, and sacculated. (See illustration.) The dilated portion contained pus, necrotic tissue, fecal matter, and twenty-two shot. The size of the shot was No. 8, and they showed signs of discharge. Microscopic examination showed an acute suppurative inflammation, together with a chronic process. The proximal end presented a thickened and rigid muscularis, which caused the lumen to remain patent and large.



Appendix, showing the presence of shot.

It seems probable that the presence of the shot had only an indirect part in causing the present attack, and that their presence in the appendix was due to the unusually large and rigid opening into the cecum, caused by a previously existing inflammation.

The patient attributes the presence of the shot to the eating of stewed rabbit.

Howard Kelly says:

> Of the heavy bodies which gain access to the appendix, the most common are shot or bullets. The rôle of shot resembles that of concretions, being purely passive; such bodies may occasionally produce abrasions of the mucous membrane, but, as a rule, they act indirectly, by obstructing the lumen, or by causing pressure anemia of the wall, and diminishing the vitality of the tissue.

Foreign bodies in the appendix, however, are unusual; in 1,000 cases at the Johns Hopkins Hospital they occurred in four cases only.

Physical Education.—The attempt of the National Education Association to persuade congress to organize a bureau of physical education similar to those found in most of the progressive countries of the world should be aided by all good citizens.—P. C. Phillips, in *Hygiene and Physical Education.*

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* From the Pathological Laboratory of the Newark City Hospital.

PRACTICAL WINDOW VENTILATION

WILLIAM J. MANNING, M.D.
Medical and Sanitary Officer, Government Printing Office
WASHINGTON, D. C.

One of the most difficult tasks, where many persons are gathered together under one roof, during the winter season and inclement weather, is the proper enforcement of healthful ventilation and the regulation of temperature in work rooms without meeting many protests.

Tersely stated, the idiosyncrasies of James Brown do not coincide with the idiosyncrasies of John Smith, so that what blows hot for John blows cold for James, and as a result one desires the window tightly closed, no matter the degree of temperature, and the other demands the window open.

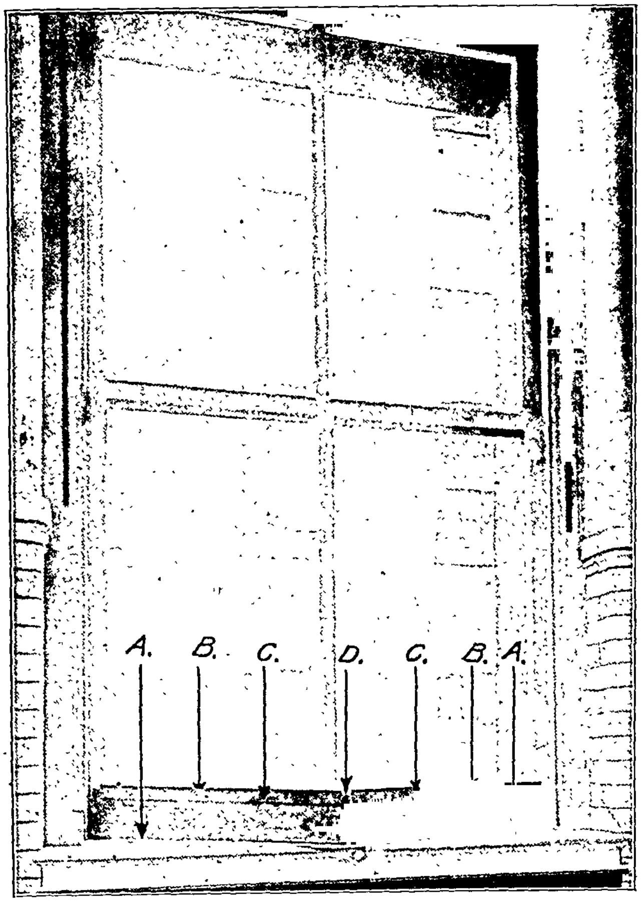

Fig. 1.—Ventilator about to be placed in position under window-sash.

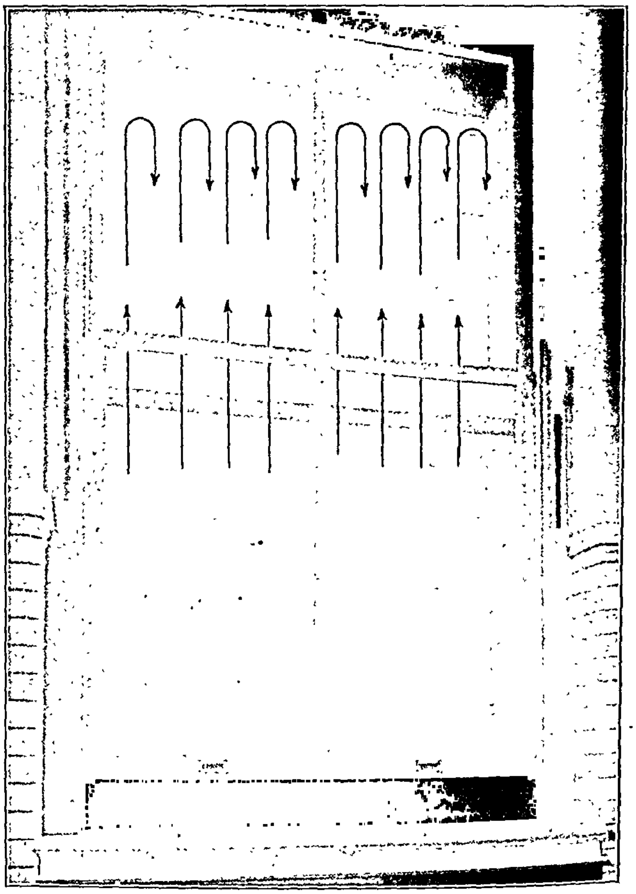

Fig. 2.—Ventilator in place with window closed, the air passing upward between top and lower window-sashes.

Of course, in many of the larger buildings over the country, systems of internal ventilation are in use, some effective and some ineffective, but all very expensive and complicated. It is the smaller buildings, however, that interest me.

To aid the ventilation of those buildings which are not thus provided for, such as small workshops, factories, stores, etc., and to aid, even where ventilation systems are in use, has been my idea in publishing the present modification of a very old method of placing a board lengthwise under a window.[1]

It will be noticed on reference to Figure 2 that a current of fresh air is constantly entering the room far above the heads of those persons who may be employed within such apartment and in such a manner that no person is directly exposed to any draft or to "catching cold." One such ventilator in every third window in a large room will be found sufficient, in the majority of cases, to admit sufficient air to keep otherwise closed rooms in a healthful condition.

I have found this simple method, as constructed and in use in this office, to be most practical, cheap and effective. Any "handy man" about a factory or workshop with a saw, hammer, plane, a few nails, hinge and a piece of board may construct one of these ventilators at the cost of a few cents by following the directions given.

Measure the distance between window-frame from side to side, or flush with ends of window-sash that works up and down in the groove, or between the parting strip and window-frame; now select two boards not less than six inches in height and each half the length measured, and of the same thickness as the window-sash, or made so by piece of wood or cleats nailed to the ends of the boards making up for such thickness; bevel the under edges of the boards (AA, Fig. 1) to fit the window-sill; bevel the top edges of the boards (BB, Fig. 1) to fit the descending window-sash. Nail a piece of wooden moulding or a common lath (CC, Fig. 1) to the inner top of the edge of the board, within which the closed window-sash will rest as shown in Figure 2.

This joint (CC, Fig. 1) may be lined with felt, or tailors' woolen selvage edges that permit the window-sash to jam tightly into the joint, making it air-tight, if desired, and preventing direct draft on any person, no matter how cold it is or how high the wind is blowing.

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[1] Egbert: Hygiene and Sanitation.

A hinge, bending outward, is now placed at the point marked (D, Fig. 1). When putting the ventilator in position, pressure outward simply snapping it in place, ready for descent of window-sash; pressure inward "breaks" the board for removal.

Large thermometers, about two feet in length, are suspended from the ceilings of work-rooms during the winter season. The figures 70 and 80 on the scale, marking the extremes of healthful indoor temperatures during the season mentioned, have been enlarged to one inch in size, and are further distinguished by broad red arrows placed above and below the figures respectively. The scale is, therefore, readable from all parts of the room, and serves as a constant indicator or danger signal in a silent, effective manner.

Therapeutics

DIABETES

As is true of all diseases, this could be more successfully treated if we knew in each instance its exact etiology. It is not necessary to rediscuss the known disturbances that cause glycosuria, but Dr. Alfred King, of Portland, Me. (*New York Medical Journal*, July 3, 1909), terms this disease infectious, and states his excuse for such a classification to be the fact that he has found, in sixteeen patients suffering with this disease, the yeast fungus (*Saccharomyces cerevisiæ*) in the blood. He takes a drop of blood from a finger which has been made sterile, and not only finds the yeast fungus under the microscope, but has been able to grow the fungus in culture fluids. His method may be learned from his article. He has also found by a study of the opsonic indices that when the patient is doing well his opsonic index is high; when the patient is debilitated, miserable, and losing ground, his opsonic index is low. He has also found that hypodermatic injections at intervals of from three days to a week of from 5 to 15 minims of the fluid produced by a twelve-hour growth of the fungus (of the strength of 100,000,000 of dead fungi in 15 minims of sterile salt solution) have raised the opsonic index and improved the condition of six patients.

King allows some starchy foods, as a little oatmeal, half a slice of bread, or a small potato, with each meal.

From his investigations King says: "Because diabetes is a disease of fermentation; because the yeast fungus is often found in the blood; because its actions explain all the symptoms as well as the pathologic conditions; because the patients show a disturbed power of resistance to this fungus; and because this lowered resistance is increased by treatment with vaccine, I believe this yeast fungus is the cause of diabetes, and that it should be treated as an infectious disease." He thinks this fungus may be removed by the use of antiseptics, but he has not yet learned how to do this.

His general treatment by diet, for the amelioration of symptoms, and the condition of acidosis are the same as are so well understood.

This interesting discovery by King should stimulate physiologists to a general study of the frequency and constancy of the yeast fungus in the blood of diabetics.

INTESTINAL OBSTRUCTION

It is not the purpose of this article to discuss all of the forms of obstruction that can occur in the intestine, but to offer a caution or two for the necessity of early diagnosis and immediate surgical consultation and early operation in all forms of absolute obstipation.

If obstruction is diagnosed or even suspected, cathartics must ordinarily not be administered. Also morphin, by masking the symptoms, is almost dangerous. As well pointed out by Dr. H. F. Waterhouse (*British Medical Journal*, May 29, 1909), the obscuration of the condition by one good dose of morphin may postpone a necessary operation until gangrene, septic exudate, or perforation and consequent peritonitis has made the prognosis fatal, and a favorable result from operation almost impossible.

While pain in the abdomen may be referred to any part, the diagnosis of localization is made by the region of tenderness, and the ability to find tender points and localized lesions becomes more and more difficult the later in the condition the attempt is made. In other words, very careful abdominal examination should be made whenever there is abdominal pain. Later, tenderness may be so generalized as to make a localization impossible.

The object of Waterhouse's paper is to show that in his experience volvulus, twisting of the intestine, is more frequent than has been supposed, and probably in many cases cured spontaneously. He finds that an elongated lower segment of the sigmoid part of the intestine is the most frequent position of such twisting. Prolonged constipation, and this in older and debilitated patients especially, elongates the lower part of the sigmoid of the intestine and the upper part of the rectum (this region being termed the omega loop), gives the excuse for this region being the region of most frequent twisting. Early examination of the abdomen will generally show that this is the part of the intestine in trouble. Pain, obstipation, and gas distension are the immediate symptoms. Vomiting, Waterhouse points out, may not be present in volvulus of this region.

High enemas of warm water, with the patient in the knee-chest position, will sometimes untwist this part of the intestine, and the symptoms may cease as quickly as they began. During the time of doubt and waiting before an operation is deemed advisable, all food should be absolutely withheld, although the patient may be allowed water by the stomach.

Waterhouse finds that the onset of gangrene of the twisted bowel is indicated "by the pulse becoming rapidly weak and quick, and by the septic appearance of the patient."

It must be emphasized that ordinarily to be successful operation must be done before such symptoms are in evidence.

Massage Best Remedy for Loss of Hair.—Ingenious men, says Dr. T. O. Cobb, in *New York Medical Journal*, are continually contriving new kinds of shoes, new suspenders, and hundreds of different kinds of braces, but so far no one has taken up the idea of making a hat which will hold on the head and not blow off, and at the same time not bind the head all around like a constricting band. Some one ought to invent a hat which will prevent baldness. Hundreds of remedies are on the market which are advertised as sure hair restoratives, but not one of them will bring back one hair once the hair follicle is atrophied and functionless; nor will any of these remedies prevent the falling of hair unless the habits of the sufferers are changed. At best these remedies are merely skin irritants, which promote a slightly increased flow of blood to the scalp. Dandruff cures are mostly fakes. The only good accomplished by these medications is the scalp massage indulged in while applying them, and the practitioner should make a fight against their use.

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SATURDAY, OCTOBER 16, 1909

THE PATHOGENESIS OF TYPHOID FEVER

The typhoid bacillus is one of that troublesome group of organisms which produce their effects through poisons which are liberated only when the bacteria are disintegrated—troublesome because the animal body seems to have little or no power to produce antitoxins for these "endotoxins." Hence the reason for the early abandonment of the once-cherished hope of universal antitoxin therapy for all infectious diseases. It also happens that the chief means of defense against the typhoid bacilli consists in the power of the blood serum to cause bacteriolysis, and as by this bacteriolysis the endotoxins are liberated but not neutralized, it results that the destruction of large numbers of typhoid bacilli in the blood may not always be an unmixed blessing. To illustrate by an experiment, if a large dose of typhoid bacilli be injected into an animal that has been immunized to this organism, and into another, nonimmunized, animal an equally large dose be injected, it may happen that the immune animal will die in a few hours while the normal control may live much longer. The reason for this is that the immune animal has acquired the power of destroying typhoid bacilli, and by producing the rapid disintegration of the injected organisms it causes their endotoxins to be liberated in a single large dose, against which the animal has no defense. Such an animal may die from the bacterial intoxication when cultures show that the blood is entirely free from living bacilli, while, at the same time, the control may live much longer with abundant living bacilli in its blood.

As in typhoid fever the bacilli are present in the blood almost constantly and continuously from the earliest stages, it is evident that this matter of the liberation of endotoxins by bacteria destroyed within the blood must be of much importance in the clinical manifestations of the disease. That the typhoid bacillus may be present in the body and not cause typhoid fever is well known, especially since the prevalence of bacillus-carriers has become recognized. It may even invade the tissues and cause extensive lesions, such as post-typhoid bone abscess, cholecystitis and pyelitis, without producing the features of typhoid fever. Therefore, it would seem that to produce typhoid fever the bacilli must grow in a situation where they have free access to the blood; entering the blood they cause the clinical condition of typhoid fever by becoming disintegrated and liberating their endotoxins.

From their studies of the bacteriology of the blood in typhoid, and experimental investigations on animals, Coleman and Buxton[1] have developed an interesting and plausible theory of the pathogenesis of the disease. They believe that the atrium of the infection is in the lymphatic structure of the intestinal wall; from here the bacilli reach the general lymphatic system and the spleen, where they seem able to grow, being here in a measure protected from the bactericidal power of the blood. After they have grown to a sufficient amount, corresponding to the period of incubation, they overflow into the blood, where, the bacilli undergoing bacteriolysis, the endotoxins are set free and cause the symptoms of the disease. It seems probable that in most cases of typhoid the bacilli do not multiply to any considerable extent in the blood stream, but are destroyed there; hence typhoid fever is not to be looked on as a septicemia, but a bacteriemia. When the endotoxins are liberated in the tissues, as in post-typhoidal suppurations, we do not get the typical symptomatology and pathology of typhoid; these result only from destruction of numerous bacilli in the blood stream.

Subsidence of the fever seems to depend on the cessation of discharge of bacilli from the lymph glands into the blood, probably because the immunity processes have succeeded in checking the multiplication of the bacilli in the lymphatic tissues. It is possible that those cases in which an intermittent temperature persists after the original febrile movement has subsided may be due to irregular discharge of bacilli from some lymphatic organ in which the bacilli still continue to grow. Relapses probably arise in this way, for it is known that the spleen sometimes remains large after subsidence of fever in patients who subsequently relapse, and it may well be that this enlargement indicates the local persistence of the infection, which may later flare up as the immunity reactions wane. That the resistance to the typhoid bacillus does wane, especially as regards local rather than systemic resistance, is shown by the frequency with which after recovery from systemic infection local infections appear in the form of abscesses, cholecystitis, etc.

This hypothesis not only has good experimental support, but it also is more easily accepted than the view which seemed to be becoming prevalent that typhoid fever is in reality a septicemia, for this latter view requires the assumption that the bacilli are multiplying in blood which, experiment shows, is strongly bactericidal. As support by analogy, Coleman and Buxton refer to the case of the related organism, *Bacillus paratyphosus*, which when infecting the intestines produces merely the clinical picture of a gastroenteritis, but when it has invaded the lymph glands and blood produces a disease clinically indistinguishable from typhoid fever.

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[1] Am. Jour. Med. Sc., 1907, cxxxiii, 896; Jour. Med. Research, 1909, xxi, 83.

The power of typhoid bacilli to persist in the lymphadenoid tissues long after they have disappeared from other organs may be considered to be another of the many examples of specific adaptation of bacteria to a special soil, a property of bacteria which was first made prominent by Welch.

THE PURIFICATION OF WATER WITH BLEACHING-POWDER

We have recently referred[1] to the use of ozone for the purification of drinking-water and have dwelt on the fact that the high or indeterminate cost of the various ozonization processes stands to some extent as a barrier to the general introduction of this method. It might be added further that ozone is not the only substance that can be employed for the "practical sterilization" of water, and that, from a chemical point of view other substances are theoretically available for the treatment of large public supplies. Experiments lately conducted on the Jersey City water-supply appear to bear out this view.[2] Commercial bleaching-powder, an impure product the active ingredient of which is hypochlorite of calcium, has been used increasingly in the disinfection of sewage effluents during the last few years, and on at least one occasion (Maidstone, England, 1897) it has been used to disinfect a public water-supply suspected of carrying the infection of typhoid fever. Its use on a large scale in the Jersey City experiments is therefore only a further utilization of its already well-known germicidal powers. When calcium hypochlorite is added to a natural water, hydrogen oxychlorid or hypochlorous acid is released in the water. This compound is a very weak acid, but an extremely powerful oxidizing agent. The treatment is, therefore, in no sense a chlorin treatment, but purely one of oxidation quite comparable in this respect to the process of ozonization.

The bleaching-powder employed in the Jersey City experiments contained on the average about thirty-five per cent. of "available chlorin," equivalent to about seven and nine-tenths per cent. of "available oxygen." The powder was applied during the latter part of the experiments in the proportion of about five pounds per million gallons of the water treated. The bacterial results were very favorable, the total number of bacteria in the treated water averaging only fifteen and *Bacillus coli* being isolated only once out of 455 samples examined. The process has one important chemical advantage, namely, that it brings about a reduction in the amount of carbonic acid in the water (through action of the calcium) and hence lessens the incrusting and corrosive action on iron and steel pipe.

The total cost of the process is stated to be between twenty and twenty-five cents per million gallons, or only about one-twentieth the cost of the ozonization process, so far as the latter can be determined from available data. When water-power can be obtained without additional expense, available chlorin can be produced in the electrolytic cell and the whole process thereby considerably cheapened. It should be said that the water dealt with in the Jersey City experiments does not appear from the published analysis to be very highly polluted, the bacterial content of the raw water ranging as low as 30 per c.c. and rarely going above 1500. There seems indeed to be some question as to the necessity for disinfecting this particular water, and the matter is still before the courts. Further experiments under different conditions should throw more light on the real efficiency of bleaching-powder as an agent for the purification of water-supplies, and we shall probably not have to wait long before these are made.

DISSECTION THEN, VIVISECTION NOW

In the midst of the attention attracted by the recent meeting of the antivivisectionists in London we were reminded of a corresponding agitation against dissection at the beginning of the nineteenth century. Bodies were extremely difficult to obtain, and they were secured by all sorts of underhand and illegal means. A whole series of murders committed for the sole purpose of obtaining bodies to be sold to medical schools had been unearthed in England and Scotland, yet the opponents of dissection absolutely refused to listen to reason and allow the passage of an anatomy bill by which the bodies of the poor who died in charitable institutions were to be given to medical schools for dissection purposes. The bill met great opposition in parliament from men who sentimentally insisted that such a law would work great harm to the poor. In the course of the debate Lord Macaulay, better known for his essays than his speeches, delivered a short address on Mr. Warburton's anatomy bill which Mr. Hunt had attacked with great asperity. Because his speech contains the answer to some of the sentimental objections of the "antis" in our day and, above all, because it illustrates the fact that no great humanitarian movement ever makes its way without serious opposition on the part of people who think themselves humanitarians, we quote two of the passages:

"If we could do all that, in the opinion of the member for Preston, ought to be done, if we could prevent disinterment, if we could prevent dissection, if we could destroy the English school of anatomy, if we could force every student of medical science to go to the expense of a foreign education, on whom would the bad consequences fall? On the rich? Not at all. So long as there is in France, in Italy, in Germany, a single surgeon of eminent skill, a single surgeon who is, to use the phrase of the member for Preston, addicted to dissection, the surgeon will be in attendance whenever an English nobleman is to be cut for the stone. The higher orders in England will always be able to produce the best medical assistance. Who suffers by the bad state of the Russian school of surgery? The Emperor Nicholas? By no means. The whole evil falls on the peasantry. If the education of a surgeon should become very expensive, if the fees of surgeons should consequently rise, if the supply of regular surgeons should diminish, the sufferers would be not the rich, but the poor in our country villages, who would again be left to mountebanks, and barbers, and old women, and charms, and quack medicines. The honorable gentleman talks of sacrificing the interests of humanity to the interests of science, as if this were a question about the squaring of the circle or the transit of Venus. This is not a mere question of science; it is not the unprofitable exercise of an ingenious mind; it is a question between health and sickness, between ease and torment, between life and death. Does the honorable gentleman know from what cruel suffering the improvement of surgical science has rescued our species?"

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[1] THE JOURNAL, Aug. 21, 1909, liii, 636.
[2] Engin. News, June 24, 1909.

We feel sure that what Lord Macaulay said at the end of his speech with regard to dissection he would, if called on, repeat at the end of a corresponding speech in a vivisection discussion before the House of Commons at the present time. What he has to say, therefore, is of interest, especially because the two situations so nearly resemble each other:

"I think this is a bill which tends to the good of the people, and which tends especially to the good of the poor. Therefore, I support it. If it is unpopular, I am sorry for it. But I shall cheerfully take my share of its unpopularity. For such, I am convinced, ought to be the conduct of one whose object it is not to flatter the people, but to serve them."

SCORPION VENOM AND ANTIVENOM

The sting of such scorpions as are encountered in this country seems not to be usually serious, although extremely painful and sometimes followed by dangerous sloughing and infection. In Egypt, however, scorpions are encountered which cause no inconsiderable fatality in children under 12, though the sting is rarely fatal in adults. The reason for this limitation of fatalities to children has been shown by Wilson, of the Egyptian Government School of Medicine, to depend on the fact that the average amount of poison in the most venomous of the Egyptian scorpions is capable of killing but about thirty-five kilos. During seven years there were recorded 153 deaths from scorpion sting in Cairo, while the incidence of deaths from this cause is, naturally, much higher in the country districts. In Assouan scorpions caused 1.6 per cent. of the total death rate, according to government statistics.

Although the poison from the scorpion resembles in some respects the snake venoms, yet it differs in many important particulars, especially in that it is not hemolytic, and the symptoms in animals, as described by Wilson, resemble much more closely the symptoms observed in animals dying from anaphylactic intoxication with proteins than they resemble snake poisoning. Different species of animals vary greatly in respect to their susceptibility to scorpion poison, although nearly all animals are seriously poisoned by the venom of a single sting. An interesting exception was found by Wilson to exist in certain desert animals of Egypt, which live under conditions which bring them into frequent contact with scorpions. Such animals, including desert rats, hedgehogs and foxes, possess a high degree of immunity, and a native house mouse was found also to be immune, although the ordinary mice and rats are very susceptible. It is also reported that some people who live where scorpions abound are immune to their stings, and some of these persons claim to make themselves immune to the scorpion by repeated small doses of the poison administered by pricking the skin with the stings removed from scorpions. Todd takes pains to state, however, that the Arabs who exhibit scorpions in the streets of Cairo for the entertainment of tourists are not immunes, but protect themselves by cutting the points off the stings of the scorpions. The old tradition that when a scorpion is surrounded by a ring of fire it commits suicide with its own stings is entirely fabulous, for the scorpion, like other venomous creatures, is immune to its own poison; indeed the blood of the scorpion was found by Metchnikoff to have considerable antitoxic power against scorpion venom.

The mortality, not to mention the serious effects produced by non-fatal stings, from scorpions in Egypt is sufficient to make the preparation of an antitoxin desirable, and this task has been accomplished by Dr. Charles Todd,[1] of the public health department of the Egyptian government. Calmette asserts that his antiserum for cobra venom neutralizes the venom of certain scorpions, but Todd found it ineffective against the venom of the scorpions of upper Egypt. Antiserum prepared by immunizing horses with scorpion poison, however, was capable of neutralizing in 2 c.c. doses the poison of one scorpion, and had both prophylactic and curative properties. During last summer this serum was in use in Egypt, and the results, both as to mortality and reduction of pain, are said to have been favorable.

INSTITUTIONAL CARE OF THE TUBERCULOUS

The tuberculosis campaign has passed through several distinct stages, and with increasing experience new points of view demand a change of tactics. At one time the prohibition of the use of milk and meat from tuberculous cows assumed the prominent rôle. Again, the sanatorium has been expected to solve the problem by education and cure of patients in the early stages. This method has been successful only in a degree, new cases continually developing. The source of contagion in these new cases is generally to be found in the homes of patients in the advanced stages, whom it has not been thought worth while to admit to sanatoriums. To remove this source of the disease the visiting nurses' movement was instituted, whose aim was so to educate and to care for the advanced consumptive that he might no longer be a menace to his family and neighbors. Mary E. Lent,[1] head nurse of the Instructive Visiting Nurse Association of Baltimore, reviews the work of her association, and concludes that, while good has been done to individuals, the method, as a means of preventing the spread of tuberculosis, is a failure. She says: "As a matter of fact, the experience of four years of continuous work in the homes of tuberculous patients of the class under consideration has demonstrated to me that the results hoped for have not been obtained and, moreover, are not obtainable by this method." The principal reason for this failure is the poverty of the people, who are unable, for lack of means, of time and of proper surroundings, to give themselves or their friends proper care. Advanced patients lack the moral stamina to carry out strictly the hygienic instructions of the nurse. There is a great difference between the care which can be exercised even by a conscientious patient and the scientific application of the rules for prevention in a well-appointed hospital.

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[1] Jour. Hyg., 1909, ix, 69.

Segregation or isolation is the logical solution of the problem thus presented; but it must be borne in mind that we are dealing with independent citizens on whom the attempt to force segregation or isolation may react very unfavorably. In Germany great difficulty has been experienced in getting patients to go to hospitals for advanced cases on account of the feeling of the patients that the hospital is merely a place in which to die. The very terms "segregation" and "isolation" are objectionable, and our contemporary suggests that the term "institutional care" be used instead.

In removing the prejudices of the people and preparing patients for institutional care, the services of the visiting nurse are indispensable. While she cannot train patients to prevent the spread of the disease, amid the surroundings of poverty, she can by her investigations impress on the community the need of institutional care in these cases, and she can lead the patients themselves to see how much better it would be, both for themselves and for their family and friends, if they would accept the proffered institutional care. This much has been accomplished by the work in Baltimore, it seems, for it is stated that the patients there do not shun the hospital as patients do in Germany.

Whether institutional care will furnish a complete answer to the tuberculosis problem may well be doubted; but it has its important place in the agencies for controlling the disease, which has its roots deep in the social conditions which make for poverty, physical and moral degeneration. To remedy these conditions may be the task of more than one generation, but the urgent demand appears to be to extend the work of the visiting nurse and to supplement it by providing institutional care for such patients as she can induce to accept it.

THE SUSCEPTIBILITY OF RODENTS TO PLAGUE

It would be reasonable to expect that in communities where plague had long existed among rodents some would recover and in future be immune to the disease, and this has been shown to be the case with rats in India.[1] It is rather surprising, however, to learn that a large percentage of the rats (*Mus norvegicus*) in San Francisco are refractory to plague infection even when submitted to the rigorous test of inoculation with highly virulent cultures of the plague bacillus. McCoy,[2] of the Public Health and Marine-Hospital Service, during his investigations of plague in the federal laboratory at San Francisco, has found that from 20 to 70 per cent. of the large (old) rats experimented on were partially or entirely immune to laboratory infection. The percentage of immunity was found, however, to be not nearly so high among the smaller (young) ones. The arguments advanced to show that this immunity is natural and not acquired by reason of a previous attack of the disease are based on the high percentage of the immunity compared with the low percentage of rat plague in San Francisco, and the fact that some of the immune animals had been born after the subsidence of the plague. The question arises as to whether immunity to plague may be hereditary, as has been shown by Anderson[3] to be the case with immunity to diphtheria toxin. Experiments[4] made by McCoy with other rodents gave interesting results. He shows that field mice (*Microtus californicus*) are moderately susceptible to the disease and that gophers (*Thomomys bottæ*) are highly refractory to the infection. The most important fact brought out was that ground squirrels (*Citellus beecheyi*) seem to have no appreciable degree of resistance to the disease, as nineteen of these rodents were inoculated and all died of acute plague. This fact may be of some significance in connection with measures for the extermination of these rodents in California, where, according to reports, plague-infected squirrels are being found in considerable numbers. Laboratory experiments must, of course, be interpreted with considerable reservation, but those referred to would seem to indicate that there is small probability of the infection dying out spontaneously among these animals.

PHYSICIANS AND RAILROAD COURTESIES

It probably happens practically every day in the year that some physician somewhere in the United States is on a railroad train when an accident happens, and naturally offers to do whatever he can for the injured. Often it is imperative that such immediate service should be rendered to save a life in imminent danger, or to protect the sufferer from the hazards of bungling, inexpert interference. It is reasonably sure that a certain number of lives are saved by such unsolicited medical aid every year; and it is beyond all doubt that many persons injured in railway accidents are spared long convalescence, because through prompt medical aid they escaped the danger of meddlesome interference

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[1] Journal of the Outdoor Life, September, 1909.

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[1] Jour. Hyg., vi, 506.
[2] Jour. Inf. Dis., vi, No. 3, 289.
[3] Bull. No 30, Hyg. Lab., P. H. and M.-H. S.
[4] Jour. Infect. Dis., vi, No. 3, 283.

with their wounds at the beginning. In a certain number of these cases the injured persons are able and willing to pay for the physician's services; but such cases are extremely few. The services are rendered in any case; and the presence of the physician, especially if the injured persons are taken aboard the train to be carried to a more or less distant hospital, is a great saving of worry for patients, their friends and fellow-passengers and the employees of the railroad. But should this work be gratuitous? When the injured person himself is unable to pay, it would seem to be proper for the railroad company to make some compensation to the physician, even though his services may have been spontaneously offered. The railroad company is not a subject of charity. It is, as a rule, responsible for the accident; by prompt medical services it is frequently saved no inconsiderable sum in damages, because the patient recovers sooner and the consequences of his injury are not so serious. The present custom, however, is to allow no compensation to the physician and to consider that he has simply performed one of the acts of charity which are so common in his professional work. This policy is a relic of the old days when it was the custom for railroads to get as much out of the community as they could and to return just as little as possible. The modern railroad, however, is run on a much more liberal basis. There is a definite realization that duties are owed to all those with whom the railroad is brought in intimate relations. Apparently the physician is the only one who has not yet come within the purview of this new policy. Possibly it is the physician's own fault; possibly, if the profession would call the attention of railroad officials to the injustice of the present conditions, they would be remedied. Certain it is that every physician who gives of his time to the care of an injured passenger traveling with him should receive due compensation for what he does; and the railroad should not shirk its obligations in this matter.

Pancreatic Secretion.—P. T. Herring and Sutherland Simpson (*Quart. Jour. of Exper. Physiol.*, 1909, ii, 99), studied the pressure of the pancreatic juice in the pancreatic ducts of cats and dogs. In this connection the fate of the pancreatic secretion after the ligation of the duct was also investigated. It was found, as was shown by Langendorff, that the blood contains among other things, a larger amount of diastatic ferment after ligation of the duct. The proteolytic ferments of the blood were not increased. It then seems evident that the pancreatic juice, after the ligation of the duct, is thrown into the circulation. The proteolytic ferment does not make itself apparent in the blood, since the trypsinogen has no chance to be activated by the intestinal juice. "If the obstruction of the pancreatic secretion is a permanent one, the continual escape of pancreatic juice may be an important factor in the production of the fibrosis which follows ligature of the duct. This, indeed, is the explanation given by S. Pawlow of the ultimate changes which result from such a procedure. Atrophy of the gland substance itself may quite well be secondary to the outgrowth of connective tissue, and comparable to the atrophy of the parenchyma which occurs in cirrhosis of the liver." When the pancreatic duct or ducts are obstructed the pressure of pancreatic secretion rises to a height near to that reached by the bile in obstruction of the common bile duct. The intravenous injection of duodenal extract brings about a rapid rise of pressure in the pancreas after ligation of the duct.

Medical News

GEORGIA

Free Pasteur Treatment.—The Georgia State Board of Health reports that the free Pasteur treatment, which has been established in the state for the past year, has been employed in the case of 572 persons bitten by rabid animals, and that only one death has occurred.

Colleges Open.—Hospital Medical College, Atlanta, opened for its second annual term, September 21.——The fifty-fifth annual session of the Atlanta College of Physicians and Surgeons opened September 22.——The Atlanta School of Medicine opened for its regular session, September 14, with addresses by Dr. Thomas J. McArthur, Cordele, president of the Medical Association of Georgia, and others.

Personal.—Dr. George N. MacDonell has succeeded Dr. Odom O. Fanning, resigned, as superintendent of the Wesley Memorial Hospital, Atlanta.——Dr. James N. Brawner, head of the Atlanta Pasteur Institute, has started for Paris.——Dr. Charles J. Montgomery has been made professor of medical jurisprudence and hygiene in the Medical College of Georgia, Augusta, and Dr. J. A. Johnson has resigned from the faculty of the institution on accout of his removal to Nashville.

IOWA

Physician Wins Suit.—Dr. John D. Hullinger, Clinton, who was bound over to the grand jury in that city several weeks ago on the charge of having performed a criminal operation which resulted in the death of the patient, was freed from blame by the grand jury September 14.

Personal.—Dr. and Mrs. Frederick L. Appel, Muscatine, were painfully injured by the overturning of their automobile near Sweetland Center, September 21.——Dr. William Jepson, Sioux City, has returned from Europe.——Dr. Albert Chenoweth, Camanche, who has been ill with pleurisy, is reported to be convalescent.——Dr. George L. Everall, Clinton, is reported to be critically ill with cancer at Farmington, Ill.——Dr. and Mrs. Irenarch S. Buzard, Russell, start for Europe this month.

Health Boards to Meet.—The annual conference of state and local boards of health will be held at Des Moines, October 26 and 27. On the program appear the names of Clifford G. Roe, Chicago, assistant state's attorney, who will speak on the "White Slave Traffic," and Dr. Henry M. Bracken, secretary and executive officer of the Minnesota State Board of Health, who will present a paper on the "Quarantine of Smallpox." Dr. Fred Albert, Des Moines, secretary of the Iowa Association of Health Officers, requests that all local boards of health send their health officers to this meeting.

KANSAS

Physician Found Guilty of Contempt.—Dr. William S. Lindsey, Topeka, in charge of the cottages for the insane, adjacent to Christ Hospital, is said to have been found guilty of contempt of court by Judge A. A. Dana in the district court, October 2, for the violation of an injunction restraining Dr. Lindsey from receiving and treating insane patients at the cottages.

Contagious Diseases.—During August there was reported to the Kansas Board of Health, 294 cases of tuberculosis with 65 deaths, 351 cases of typhoid fever with 71 deaths, 54 cases of diphtheria with 7 deaths, 42 cases of scarlet fever with 4 deaths, 16 cases of smallpox with no deaths, and 35 cases of measles with 1 death. Tuberculosis, typhoid fever, diphtheria and measles were more prevalent, and scarlet fever and smallpox less prevalent than in the corresponding months of 1908.

KENTUCKY

Bequest.—By the will of the late Dr. William P. Wesselhoeft, Boston, Mass., Berea College receives a bequest of $5,000.

Personal.—Dr. John Todd has been elected a member of the Newport Board of Health.——Dr. Daniel J. Healey, Lexington, has been elected superintendent of the State Institution for Feeble-Minded Children, Frankfort, vice Dr. William L. Nuttall, Newcastle.

Physicians Organize.—At a meeting held in Covington, September 20, the Kenton-Campbell County Medical Examiners' Society was organized with an initial membership of ten. Dr. Charles E. Thompson, Covington, was elected president and Dr. William A. Young, Newport, secretary.

LOUISIANA

Sanatorium Notes.—Plans are being prepared by New Orleans architects for a new building for the Schumpert Memorial Sanatorium, to cost about $100,000, and to be located on the old Hicks homestead.——Dr. Charles Chassaignac has had plans prepared and has awarded the contract for the building of an annex to the New Orleans Sanatorium, to cost about $20,000.

Personal.—Dr. George Dock, New Orleans, has returned from Europe.——Dr. Charles M. Menville, Houma, has been elected president of the Terrebonne Parish Board of Health.——Drs. Walter F. Carstens and Warren G. Young have been appointed members of the New Iberia Board of Health.——Dr. Joseph J. Holt, New Orleans, has resigned as president of the Prisons and Asylums Commission.

Against Tuberculosis.—The Antituberculosis League of Louisiana has received a donation of $5,000 from an unknown individual. This will be used as the nucleus of a fund of from $40,000 to $50,000, to be used in establishing a shelter in New Orleans for consumptives.——Dr. Edward L. McGehee, New Orleans, president of the Antituberculosis League of Lousiana, gave an illustrated lecture at Garyville, September 14, at the close of which a branch of the state league was organized.

MARYLAND

Hospital Day.—Hospital Day, which was celebrated at Easton, September 30, was attended by about 4,000 persons. The proceeds go to the Emergency Hospital.

Charge Dismissed.—The charge of assault against Dr. R. Percy Smith, Pikesville, was dismissed at the trial, September 25, the plaintiff not appearing.

Financial Committee Appointed.—The Medical and Chirurgical Faculty of Maryland has appointed a committee to secure funds to pay off the debt on the building and also for its endowment.

One Instead of Two Boards.—Dr. John McPherson Scott, Hagerstown, secretary, and Dr. Herbert Harlan, Baltimore, president of the Board of Medical Examiners, suggest the advisability of having one board for the state instead of two, as obtain under the present medical law.

Baltimore

Library for Sale.—The library of the late Dr. Edward Z. Cole, which is said to be a unique collection, is offered for sale at public auction.

Fire in Hospital.—A fire occurred in the operating room of the Church Home and Infirmary, September 25, due to an explosion of chemicals, but the coolness and promptness of the physicians and nurses prevented panic, and confined the damage within small limits.

Jail Hospital.—A new hospital has been built, occupying three floors of the administration building at the jail, for the use of sick prisoners. It was opened October 1, and is well equipped, with one ward provided for tuberculosis patients, and one for infectious diseases. Dr. G. H. Waltereck, assistant to the jail physician, is in charge of the hospital.

Alumni Reunion Planned.—The delegates of Johns Hopkins Medical School to the Hopkins Alumni Council have appointed a committee composed of Drs. Thomas R. Brown, J. H. Mason Knox, Joseph H. Pratt, and J. Hall Pleasants to arrange plans for a reunion of the medical graduates some time during spring next year. It is intended to form an alumni association at this time.

Faculty Changes.—The following faculty changes in the Maryland Medical College are announced: Dr. Alexander D. McConachie has been made professor of diseases of the ear, nose and throat; Dr. William S. Love, professor of therapeutics; Dr. Irvin Ebaugh, professor of materia medica; Drs. Josiah S. Bowen and Frank J. Powers, associate professors of diseases of the ear, nose and throat, and Dr. A. C. Beethan, dispensary physician.

Home from Europe.—Drs. William H. Welch, Henry O. Reik, A. J. Neilson Reik, William S. Thayer, Lewellys F. Barker, Harvey W. Cushing, John S. Fulton, Thomas C. Worthington, William T. Watson and W. P. Miller have returned from Europe, where they attended the recent International Medical Congress at Budapest.——Drs. Harry Friedenwald, Frank Martin, Lillian Welsh, Mary Sherwood, Ridgeley B. Warfield, Thomas S. Cullen and William B. Wolf have returned from Europe.

Medical Colleges Open.—The Maryland Medical College, Baltimore, opened October 1. The opening address was delivered by Dr. E. Miller Reid on "The Age in Which We Live."——The University of Maryland, School of Medicine, opened October 1. ——The thirty-eighth annual session of the College of Physicians and Surgeons opened October 1.——The Woman's Medical College opened for its annual session October 1, and the Hospital of the Good Samaritan, which is connected with the institution, opened September 27, after having been closed for the summer.——Johns Hopkins Medical School opened for its annual session October 5.

Personal.—Dr. Adolph Meyer, professor of psychiatry in Johns Hopkins University, received the degree of LL.D. at the recent anniversary of Clark University, Worcester, Mass.—— Dr. Felix S. Jenkins is seriously ill at the home of his daughter in Towson, Md.——Dr. B. Bernard Browne, professor of gynecology in the Woman's Medical College of Baltimore, has resigned.——Dr. B. Bernard Browne, professor of gynecology in the Woman's Medical College, has resigned.——Drs. William H. Welch, Henry O. Reik, J. Neilson Reik, William S. Thayer, Lewellys F. Barker, Harvey Cushing, John S. Fulton, Thomas C. Worthington, William T. Watson, Clements von Pirquet, and W. P. Miller have returned from Europe.——Dr. Samuel Wolman has been appointed by the faculty of Johns Hopkins Medical School to inspect the sanitary condition of the boarding-houses occupied by students of that institution.——Dr. Hyman M. Cohen, associate editor of the *Maryland Medical Journal*, has resigned to enter the medical reserve corps of the Army.——Dr. Ira Remsen, president of Johns Hopkins University, was given the honorary degree of LL.D. at the convocation of Harvard University, October 7.——Dr. George M. Smith underwent an operation at Johns Hopkins Hospital, October 8.

MASSACHUSETTS

New Hospital Opened.—The new hospital at North Reading, for the treatment of tubercular patients, was opened recently. The sanatorium is one of three to be established by the state in different sections.

Sanatorium Site Acquired.—The New Bedford Antituberculosis Society has acquired by purchase five acres of land in the north end of the city on which will be established a tuberculosis sanatorium.

Bequest.—By the will of the late Charles H. Draper, Brookline, $1,000 each is bequeathed to the Children's Hospital and the New England Hospital for Women and Children, Boston. ——By the will of the late Katherine T. Buttrick, Lowell, a bequest of $20,000 is made to St. Johns Hospital, Lowell, and also one of $6,000 to maintain a free bed.——By the will of the late Albert T. Whiting, the first health officer of Boston, who died October 1, $4,500 is devised to the Children's Hospital, Boston.

Council Meeting.—The stated meeting of the Massachusetts Medical Society was held in John Ware Hall, Boston Medical Library, October 6. Dr. J. Bapst Blake, Boston, was elected delegate to the American Medical Association in place of Dr. John L. Morse, Boston, who resigned, as he desired to be more nearly identified with section work. Dr. Charles H. Cook, Natick, resigned from the committee on state and national legislation on his appointment as a member of the Massachusetts Board of Registration in Medicine, and Dr. David D. Scannell, Boston, was selected to succeed him. The following delegates to the American Medical Association were appointed for 1910 and 1911: Drs. Horace D. Arnold, Boston; Homer Gage, Worcester; Orlando J. Brown, North Adams, and alternate delegates, Drs. Frederick J. Cotton, Boston, Francis W. Anthony, Haverhill, and William A. Dolan, Fall River; and the following delegates to state societies: To Vermont—Drs. James H. Higgins, Marstons Mills, and Granville S. Allen, Lawrence; to New York—Drs. Samuel B. Woodward, Worcester, Frank A. Hubbard, Taunton; to Maine—Drs. Edward W. Taylor, Boston, and George Z. Goodell, Salem; to New Hampshire—Dr. Ernest S. Jack, Melrose; and to Connecticut—Drs. Frederick S. Ward, Springfield, and George P. Twitchell, Greenfield. It was voted that all fellows of the society who are members of any standing committee of the American Medical Association or of the National Legislative Council, and delegates or alternates to the Association be invited to all meetings of the Council of the Massachusetts Medical Society. This vote was passed with the object of more closely cementing the business aims and methods of the state organization and those of the American Medical Association, bringing about better understandings and results. It was also decided that the annual discourse, when delivered, should be the property of the state society. The council, taking up the matter of minority and majority reports of the committee on contract work, voted that the matter be indefinitely postponed.

MICHIGAN

Sanitation on Trains.—Dr. F. W. Shumway, Lansing, secretary of the State Board of Health, announces that he is about to call a meeting of the representatives of all railroads doing business in the state to discuss the provisions of the new law giving the board authority to require sanitary precautions on passenger trains for the protection of the public.

Hospital Opens Outdoor Department.—On September 8, Butterworth Hospital, Grand Rapids, established a free medical dispensary in the basement of the institution, with six rooms. The dispensary will be open from 12:30 to 2 daily. Mondays and Thursdays will be devoted to diseases of the eye, ear, nose and throat; medical and surgical cases will be cared for Tuesdays and Wednesdays and Fridays, and skin diseases will be treated on Saturday.

NEW HAMPSHIRE

McCormack in New Hampshire.—Dr. J. N. McCormack, chairman of the organization committee of the American Medical Association, began a campaign in New Hampshire October 3, and will visit all counties in the state.

State Sanatorium Opens.—The first patients to be received at Glencliff, the State Sanatorium for Tuberculosis, arrived September 11. The present capacity of the institution is forty patients, and examinations for admittance are to be held in Manchester.

Society Meeting.—At the annual meeting of Sullivan County Medical Society, held in Claremont, the following officers were elected: President, Dr. Edwin C. Fisher, Sunapee; vice-president, Dr. Fred P. Claggett, Newport; secretary, Dr. Emery M. Fitch, Claremont; treasurer, Dr. David M. Currier, Newport, and censors, Drs. Albion S. Marden, Newport, Oscar C. Young, Charlestown, and Henry C. Sanders, Claremont.

Money for Hospitals.—A legacy of $5,000 to the Mary Hitchcock Hospital, Hanover, is contained in the will of the late Stephen M. Crosby, Boston. The bequest is to endow a bed in memory of the testator's father, Nathan Crosby, preference to be given, if possible, to graduates of Dartmouth College.——Proceeds of a tag day, held in Portsmouth, August 7, for the benefit of the Cottage Hospital, are expected to amount to $2,000.

Crisis in Hospital.—As the result of trouble at Elliot Hospital, Manchester, between the medical staff and the matron, Drs. William M. Parsons, L. Melville French, George D. Towne, Henry D. W. Carvelle, Hosea B. Burnham, William H. Pattee, Charles F. Flanders, George M. Watson, Clarence W. Milliken, J. Franklin Robinson, David W. Parker, Arthur F. Wheat, Henry W. N. Bennett, Frank N. Rogers, Clarence O. Coburn, Ezra A. Jones, John C. O'Connor, and Emdon Fritz have resigned from the staff. The trustees have placed Dr. George C. Wilkins in charge of the medical and surgical department of the hospital, and Dr. Charles A. Sturtevant at the head of the maternity ward. These gentlemen have been authorized to choose assistants.

NEW YORK

Medical College Opens.—Albany Medical College enters on its seventy-ninth year, September 21. The introductory lecture was delivered by Dr. Frederick C. Curtis.

District Society Meeting.—The Sixth District Branch of the Medical Society of the State of New York held its third annual meeting in Oneonta, September 28. Dr. Frank DeW. Reese, Cortland, was elected president, and Dr. Herbert W. Fudge, Elmira, was reelected secretary-treasurer.

Railway Surgeons to Meet.—The New York and New England Association of Railway Surgeons will hold its nineteenth annual meeting at the Academy of Medicine, New York City, November 16 and 17. A symposium will be presented on "Causes of Railway Accidents Individualized."

New Tuberculosis Hospital.—The committee on tuberculosis hospital of the Ontario County board of supervisors has recommended the approval of the plans for the hospital, which call for a central building with wings attached, with open-air sleeping quarters. The institution is to be known as Oak Mount.

Open-Air Schools.—Rochester (N. Y.) has opened an open-air school for children suffering from incipient tuberculosis. Twenty children have been enrolled. They will have desks in a big tent, will be wrapped up warmly and will have their legs in bags to protect them from the cold.——Buffalo is also contemplating a similar school. School No. 14 has been designated as a school where the children of different mentality from those in all other schools will be taught by teachers especially trained for this purpose.

New York City

Clinic for Naval Surgeons.—At the invitation of the trustees of Roosevelt Hospital the surgeons of the German, French, English and Italian visiting warships attended a surgical clinic in the Syms operating theater of the hospital. The visitors were entertained by Dr. George E. Brewer and his associate, Dr. Charles H. Peck.

Returned from Europe.—Dr. Alexis Carel of Rockefeller Institute arrived home from Europe on October 1. During his stay in Paris he delivered several lectures on surgery.——Dr. William J. Robinson, Dr. and Mrs. Ludwig W. Kast, Dr. Smith Ely Jelliffe and family, Drs. Frederick Peterson, Frederick Earle Beal, and Valentine Mott have returned from Europe.

The Milk Essay Competition.—The department of health has received nearly one hundred essays in the prize competition on the care of dairy cows and the preparation of milk for the New York city market. The prizes will be finely bred dairy cows. Dr. Darlington has taken this way of interesting the milk producers in the New York City production territory in the requirements of the City Health Board. The prize essays will be distributed among the dairymen.

Health Home Closed.—This home at Coney Island has closed for the season after having given outings to 720 mothers and 1,652 children and day excursions to 1,652 mothers and 2,351 children. The Chappaqua Convalescent Home, the Children's Summer Home at Bath Beach, the Boy's Camp near Stamford, and the Martha Home at Ossining swelled the number of those cared for to 11,530. In addition the Sick Children's Mission treated more than 2,000 children in their homes in the city.

Bequests.—The will of Miss Phebe Ann Thorne gives the Home for Incurables $10,000; the Woman's Hospital, $10,000; the Society for the Relief of the Ruptured and Crippled, $10,000; the General Memorial Hospital, $10,000; the Manhattan Eye and Ear Hospital, $5,000; the New York Eye and Ear Infirmary, $5,000; the New York Skin and Cancer Hospital, $10,000; and the Colored Home and Hospital, $5,000. ——Mrs. Emily A. Gere has bequeathed $30,000 in trust to a servant and the testator's niece, who will receive the income as long as they live, and at their death this money is to go to the St. Rose Free Home, a cancer hospital.

Medical Schools Open.—The entering class of the University and Bellevue Hospital Medical College promises to be larger than that of last year. Chancellor Henry M. MacCracken made the opening address to the students and announced that the Carnegie Laboratory would be enlarged at a cost of about $100,000. He also announced that the college had been the recipient of a bequest of $25,000 in a will not yet probated. ——The one hundred and first annual session of the College of Physicians and Surgeons of Columbia University opened September 23, with an enrollment of 279. President Nicholas Murray Butler delivered the address of welcome, and Dr. Christian A. Herter, professor of pharmacology and therapeutics, spoke on "Imagination and Idealism in Medical Science."

OREGON

Eastern Oregon Physicians Meet.—At the annual meeting of the Eastern Oregon Medical Association, held in Pendleton, September 28 and 29, the following officers were elected: President, Dr. Robert E. Ringo, Pendleton; vice-presidents, Drs. Frank B. Kistner, Heppner, and E. O. Logan, The Dalles; secretary-treasurer, Dr. Roy C. McDaniel (reelected), Baker City; and censors, Drs. Thomas M. Henderson, Pendleton, Jacob Prinzing, Ontario, and Oliver M. Dodson, Baker City.

PENNSYLVANIA

Physicians Violate Law.—Sixty physicians of Schuylkill county were placed under arrest October 2 by Dr. R. J. Brauner, State Health Inspector, charged with the violation of the act which requires the recording of births within ten days. The defendants are among the most prominent physicians in the county.

Memorial Addition to Hospital.—Mrs. John T. Dyer has planned to erect a new wing at the Charity Hospital, Norristown, as a memorial to her late husband. One section of the new building will be used for the treatment of diseases of the eye, ear, nose and throat, and the other section of the building will be used for the care of medical and surgical cases.

Railroad Fatalities.—The Pennsylvania Railroad issued on October 9, statistics showing that the number of deaths due to trespassing on railroad property in the United States in the last ten years reached 47,416. The report shows that the number of persons injured aggregated 50,000. In 1898, the number of trespassers who lost their lives on American railroads was 4,063, five years later the number was 5,000, and in 1907 the number killed reached 5,612, or more than 15 a day. In 1899, 465 trespassers lost their lives on the Pennsylvania lines; in 1904, the number killed was 781, while in 1907 the fatalities reached 915, an average of almost 3 for every business day in the year. In the ten years prior to

Jan. 1, 1909, 7,240 persons were killed on the Pennsylvania system, and during the first six months of the present year, 285 trespassers were killed. The report shows that it is not only tramps who are victims, but men of the laboring class, factory workmen, their wives and children, who use railroad tracks as thoroughfares.

Philadelphia

Officers Elected.—The following officers have been elected to serve during the ensuing half year of the Southwark Medical Society: President, Dr. Max Staller; vice-president, Dr. Aaron Brav; secretary, Dr. Maurice B. Cooperman; treasurer, Dr. Nathan Blumberg.

Loving Cup for Dr. Dixon.—In appreciation of his splendid work in the State Department of Health, Dr. Samuel G. Dixon, State Health Commissioner, was presented with a beautiful silver loving cup by the county medical inspectors of the state and chiefs of the state tuberculosis dispensaries, at a meeting held in this city, October 5.

To Enlarge Hospital.—A contract has been awarded for the erection of a five-story addition, 25x78 feet, to the Samaritan Hospital at the northeast corner of Broad and Ontario streets. The new structure will be a modern fire-proof building, provided with dispensaries, wards and operating-room, and will be erected at a cost of several thousand dollars.

Personal.—Dr. Gerald O'Farrell was thrown from his carriage and sustained a fracture of the collar-bone, October 5. ——Dr. William E. Robertson has been appointed professor of theory and practice of medicine in the Medical Department of Temple University, vice Dr. Samuel Wolfe, resigned.—— Dr. Howard S. Anders has returned from Europe.

The New Home of the College of Physicians to Open.—The new building of the College of Physicians at Twenty-second and Ludlow streets will be dedicated with appropriate ceremonies on Wednesday, November 10. Delegates and guests are requested to register as soon after their arrival as possible. Guests, officers and fellows will assemble at the First Unitarian Church, Twenty-second and Chestnut streets, at 2 p. m., and candidates for associate fellowship, the guests of the occasion and the officers of the college are requested to appear in academic costume.

State Health Inspectors Meet.—The second annual meeting of the county medical inspectors and chiefs of the tuberculosis dispensaries of Pennsylvania was held in this city October 5 and 6. The conference was called by Dr. Samuel G. Dixon, Harrisburg, the State Health Commissioner. One hundred and fifty physicians were in attendance. Tuberculosis and the latest methods of fighting it was the main theme of the various meetings. Every phase of the work of the State Health Department was discussed at an assembly meeting held in the Academy of Natural Sciences. Among the speakers were: Commissioner of Health of the State of New York Dr. Eugene H. Porter and the Commissioner of Health of New York City, Dr. Thomas Darlington. The meeting was also addressed by Surgeon-General of the Marine-Hospital Service Dr. Walter Wyman. The program further included clinics on tuberculous meningitis, by Dr. Joseph Sailer, in the Philadelphia General Hospital; surgical tuberculosis, by Dr. Robert G. LeConte, in the University of Pennsylvania Hospital; visceral tuberculosis, by Dr. James M. Anders, at the Medico-Chirurgical Hospital, and tuberculosis of serous membrane, by Dr. James C. Wilson, at the Jefferson Hospital. The conference came to a close by a luncheon given by Dr. Dixon at his country estate, Black Rock Farm.

SOUTH CAROLINA

Improvements in Medical College.—The Medical College of the State of South Carolina, Charleston, opened for the year October 4. A special course of five lectures on "Uncinariasis" is to be delivered by Dr. Charles W. Stiles, U. S. P. H. and M.-H. Service, in December. The college building has been remodeled since the close of the session in last May. An assembly hall takes the place of the old amphitheater, two additional lecture rooms have been constructed and a new physiologic laboratory has been provided and equipped.

Faculty Changes.—The Medical College of the State of South Carolina announces the following changes in its faculty: Dr. A. Robert Taft, lecturer on materia medica; Dr. E. H. Sparkman, assistant to the chair of pathology; Dr., Daniel L. Maguire, assistant in surgery; Dr. Richard M. Pollitzer, instructor in laboratory physiology; Dr. Thomas W. Reynolds, assistant to the chair of obstetrics; Dr. Charles A. Speisseger, assistant to the chair of chemistry; Dr. Francis L. Parker, Jr., lecturer on medical jurisprudence; and Mr. J. B. Hyde, assistant to the professor of pharmacy.

SOUTH DAKOTA

Personal.—Dr. Charles F. Holmes, Hecla, who was seriously injured in an automobile accident recently, is said to be convalescent.

State Medical Society Meeting.—The twenty-eighth annual session of the South Dakota State Medical Association was held in Aberdeen, September 29 to October 1. The following officers were elected: President, Dr. Thomas B. Smiley, Mount Vernon; vice-presidents, Drs. Hans M. Finnerud, Watertown, and William G. Smith, Sturgis; and secretary-treasurer, Dr. Robert D. Alway, Aberdeen. The next meeting of the society will be in Hot Springs.

TEXAS

Adjudged Insane.—Dr. William R. Mercer, Galveston, is said to have been adjudged not responsible and requiring restraint, September 11.

Found Not Guilty.—In the case of Dr. Hake, Hubbard City, charged with the illegal writing of prescriptions for alcoholic liquors, the jury at Hillsboro returned a verdict of not guilty, September 14.

Healers Must Be Licensed.—The attorney-general has furnished a ruling to a firm of physicians in Killeen, holding that magnetic healers come within the provisions of the "one board" medical act, and that any one practicing through magnetic healing, massage, manipulation of the body, etc., with a view of curing diseases, must have a license.

Medical Colleges Open.—The State Medical College, Galveston, opened October 1. Dr. Arthur E. Austin delivered the opening address on "The Doctor in Fiction."——The Southwestern University Medical Department, Dallas, opened without formal exercises September 29.——Baylor University Medical College, Dallas, opened with informal exercises September 29. The college occupies new quarters in the science building.

UTAH

Automobile Accident.—Dr. Frederick Stauffer, Salt Lake, and Drs. Amasa S. Condon, Ezra C. Rich and Robert S. Joyce, Ogden, were seriously injured, at Ogden, September 21, by the overturning of an automobile in which they were riding.

Smallpox.—Reports sent in to the State Board of Health state that in one small town in Rich county there are more than thirty cases of smallpox. These yearly outbreaks are said to be due to the local prejudice against vaccination.

State Society Meeting.—The fifteenth annual meeting of the Utah State Medical Association was held in Ogden September 21 and 22. The following officers were elected: President, Dr. Joseph S. Richards, Salt Lake City; vice-presidents, Drs. Amasa S. Condon, Ogden; Walter T. Hasler, Lehi, and Ernest D. Hammond, Salt Lake; secretary, Dr. W. Brown Ewing, Salt Lake; treasurer, Dr. James N. Harrison, Salt Lake; councilor and delegate to the American Medical Association, Dr. A. C. Bailey, and alternate delegate, Dr. Robert S. Joyce, Ogden. Salt Lake City was selected as the place of meeting for 1910.

VIRGINIA

Changes in Examining Board.—The following changes in the membership of the State Board of Medical Examiners are announced: First district, Dr. Joseph N. Barney, Fredericksburg; third district, Dr. J. E. Wright, Brook Hill; fourth district, Dr. Otho C. Wright, Jarratt; sixth district, Dr. Henry W. Dew, Lynchburg; seventh district, Dr. Philip W. Boyd, Winchester; and tenth district, Dr. Robert Glasgow, Lexington.

Medical Society Meeting.—At the fortieth annual session of the Medical Society of Virginia, held in Roanoke, October 5 to 7, the following officers were elected: President, Dr. Elliott T. Brady, Abingdon; vice-presidents, Drs. Walter A. Plecker, Hampton, James S. Irvin, Danville, and R. H. White, of the University of Virginia; secretary, Dr. Landon B. Edwards, Richmond (reelected); treasurer, Dr. Robert M. Slaughter, Theological Seminary (reelected); delegates to the American Medical Association, Drs. John S. Horsley, Richmond, Thomas C. Firebaugh, Harrisonburg, and William E. Anderson, Farmville, and councilors at large, Drs. Edward McGuire, Richmond, Richard W. Fry, Roanoke, Stephen Harnsberger, Catlett, M. M. Pearson, Bristol, George J. Tompkins, Lynchburg; first district, Dr. Clarence P. Jones, Newport News; second district, Dr. Edward E. Field, Norfolk; third district, Dr. Alfred L. Gray, Richmond; fourth district, Dr. Samuel A. Hinton, Petersburg; fifth district, Dr. Jesse M. Shackelford, Martinsville; sixth district, Dr. Sparrell S. Gale, Roanoke; seventh district, Dr. William P. McGuire, Winchester; eighth district, Dr. Tunis

C. Quick, Falls Church; ninth district, Dr. John T. Graham, Wytheville; and tenth district, Dr. Samuel H. Burton, Parnassus. An interesting incident of the session was the presentation of a purse of $1,000 in gold to Dr. Landon B. Edwards, Richmond, who has been secretary for many years. The presentation was made by Dr. Paulus A. Irving, Richmond. It was decided to increase the dues of the society from $2 to $3 per annum. A resolution was passed endorsing the senate bill to increase the salary of the Public Health and Marine-Hospital Service. The next meeting is to be held in Norfolk.

WISCONSIN

Personal.—Dr. A. Hamilton Levings, Milwaukee, has returned from abroad.——Dr. J. M. Beffel, Milwaukee, secretary of the Wisconsin State Medical Society, who was arrested for leaving his automobile standing in front of his home in Milwaukee, in violation of a city ordinance, was found not guilty.

Pasteur Institution.—Final arrangements are being made by the State Board of Health to establish an institute for the treatment of hydrophobia in connection with the state hygienic laboratory, Madison. Treatment will be given free of charge to indigent persons, but a small amount will be charged persons who are able to pay for the treatment in order to make the work as nearly self-supporting as possible.

Antituberculosis.—The Antituberculosis Association of Wisconsin is thoroughly organized and promises a vigorous campaign on the lines of increasing membership, raising of funds, promoting bills in need of legislation, and direction of sanatoria in different parts of the state. Prof. W. D. Frost, Wisconsin University, who has written and lectured extensively on tuberculosis, is president of the association, and Lester W. Hutchcroft, of the State Board of Health, is secretary.

GENERAL NEWS AND COMMENT

Anderson Made Chief of Hygienic Laboratory.—Passed Assistant Surgeon John F. Anderson, P. H. & M.-H. Service, has been appointed director of the hygienic laboratory of the service, vice Surgeon M. J. Rosenau.

Personal.—Dr. C. A. Dawes, M. R. C. U. S. Army, was taken ill with appendicitis while on a practice march from Fort Perry, Ohio, to Fort Thomas, Ky., October 1.——Dr. John Mason Little, Jr., Boston, narrowly escaped death in the wreck of the Princeton mission boat, *Andrew J. McCosh*, in the straits of Belle Isle, Sept. 12, but was rescued by Dr. Grenfell.

Medical Officer May Command Ship.—The attorney general has handed down an opinion to the secretary of the navy that he has authority to assign a medical officer not below the grade of surgeon to the command of a naval hospital ship. This decision has been made in view of the expected commission of the hospital ship, *Solace*, for which the Chief of the Bureau of Medicine and Surgery desires to ask the detail of a member of the medical department as commanding officer.

Conference on Prevention of Infant Mortality.—The American Academy of Medicine, at the mid-year meeting, will hold a conference on the prevention of infant mortality at New Haven, Conn., November 11-12. The first session will consider the "Medical Prevention of Infant Mortality;" the second will take up the "Philanthropic Prevention of Infant Mortality;" the third will deal with the "Institutional Prevention of Infant Mortality;" and the fourth will be devoted to discussion of the "Educational Prevention of Infant Mortality."

Postponement of International Congress of School Hygiene.—The third international congress for school hygiene, which was to have been held next March, has been postponed until August 2 to 7, 1910, in order to give more importance to the exhibition to be attached to the congress. A pamphlet of 60 pages, giving the details of the congress, will be sent on demand to the secretary, Dr. Dufestel, 10 Boulevard Magenta, Paris, France. The honorary president of the committee of propaganda in this country is Dr. A. T. Cabot, of Boston, with Dr. J. H. Musser, of Philadelphia, as president, and Dr. T. A. Storey, of Boston, Mass., as secretary and treasurer.

Military Surgeons' Meeting.—At the eighteenth annual meeting of the Association of Military Surgeons of the United States, held in Washington, October 5 to 8, the following officers were elected: President, Colonel Joseph K. Weaver, N. G. Pa., Norristown, Pa.; first vice-president, Colonel William C. Gorgas, M. C., U. S. Army, Ancon, Canal Zone, Panama; second vice-president, Surgeon Charles P. Wertenbaker, P. H. & M.-H. Service, Norfolk, Va.; third vice-president, Surgeon William C. Braisted, U. S. Navy, Washington, D. C.; secretary, Major Charles Lynch, M. C. U. S. Army, Washington, D. C.; and treasurer, Major Herbert A. Arnold, N. G. Pa., Ardmore, Pa. It was decided to hold the 1910 meeting in Richmond, Va.

Prevention of Contamination of Vegetables.—It is interesting to note that supervision of vegetable gardens is suggested in San Francisco as necessary to prevent the contamination of their products with amebas from the human excrement used as a fertilizer by the Chinese gardeners. According to H. W. Austin (*Public Health Reports*, Sept. 24, 1909), of 55 cases of amebiasis occurring in the Marine Hospital at San Francisco from Dec. 1, 1908, to Aug. 9, 1909, 16, it is believed, originated in California. It has been decided by the San Francisco board of health to declare amebic dysentery an infectious disease and require it to be reported. The occasional occurrence of this disease in the Northern states indicates that precautions to prevent its spread would not be untimely.

Appeal for Data in Regard to Influence of Roentgen Exposures on Growth.—In experimentation on young animals, the Roentgen rays have displayed a detrimental influence on the growth, and the German Roentgen Society is now making a collective inquiry to determine whether this occurs also in children exposed to the rays. The question blank sent out by the society asks the number of children thus treated, age, region exposed, pathologic reason for the exposures, length of exposures, soft or hard tubes (5-7 Wehnelt or 7.5 to 9 Wehnelt), year of exposure, number of children examined since, and, if any evidence of interference with growth was detected, details of such influence. The interference with growth may not become apparent until after a number of years, so all children exposed at any time should be included in the investigation. On suspicion of checked growth of the extremities, comparative skiagraphs and measurements should be made. Replies may be sent to Dr. Försterling, Mors, Rheinland, Germany, chairman of the committee in charge of the inquiry, or to Prof. P. Krause, Bonn, president of the Röntgengesellschaft.

The Far-Eastern Association of Tropical Medicine.—The Far-Eastern Association of Tropical Medicine will hold its first meeting in Manila, March 14, 1910. This association was formed two years ago by representatives from Japan, China, Siam, the Straits Settlements, Ceylon, Hongkong, French Indo-China, and the Philippine Islands, present at a meeting of the Philippine Islands Medical Association. Dr. Paul C. Freer, of Manila, was elected president and Dr. Francis Clarke of Hongkong, general secretary. The Governor General of the Philippine Islands subsequently invited the representatives of the various governments within the territory of the association to send delegates to the first meeting to be held in Manila. Cordial adherence to the purposes of the association was expressed by all who were so addressed and active interest in the formation of the various sections was manifested. The government of the Philippine Islands made an appropriation to cover the expenses of the meeting and a preliminary program of sessions was issued. The sections are divided as follows: protozoology and helminthology; cholera, plague and leprosy; surgery and obstetrics; diseases of children; fevers in the tropics, including malaria, typhoid, etc.; dysenteries; beriberi; tuberculosis; climate, hygiene and sanitation. The first six sessions will be held in Manila, the remainder at Baguio, the summer capital of the islands, in the Benguet Mountains. The new government hospitals and the new buildings of the Philippine Medical School will be dedicated at the time of the meeting. The interest manifested by the various countries in the Far East, and the replies already received insure papers of the highest class and a large attendance. The meeting will be held during the best time of the year. The opportunity for seeing Manila and its various modern scientific institutions, as well as portions of our Philippine possessions under the best auspices, will be unexcelled. Physicians making the journey to Japan or around the world can easily arrange the short side trip from Hongkong to Manila. Steamship communication between the two ports is established by the regular Hongkong-Manila lines twice a week and by the vessels of the North German Lloyd's Australian line, the Nippon Yusen Kaisha and the China and India Navigation Company; the Australian boats are all of good size and of the best class. The large vessels of the Pacific Mail now also stop at Manila, going to the latter port direct from Japan. The workers in medical science in the Far East have made such rapid advances in the past few years that encouragement of their new venture, which has for its purpose the advancement of medical research in this most important area of the world, would most certainly reflect credit on the medical profession as a whole. Interest in tropical medicine is increasing rapidly in this country and the time is not far distant when chairs of Tropical Medicine will be established in some of our medical schools. There is no better way to acquire a knowledge of the work to be undertaken than by sending representatives to this meeting, and it is hoped that some of our larger institutions may be able to do this.

CANADA

Tuberculosis Sanitaria.—The Ontario government was recently asked to erect, equip and maintain, by a large provincial delegation of medical and laymen, sanitaria for indigent and other consumptives. In replying to the propositions of the delegation the premier, Sir James Whitney, stated he would be in favor of withdrawing the annual provincial grant to those general hospitals throughout the province which refused to take such patients. The premier thought that there was too much "scare" about consumption, but promised that the proposals of the deputation should receive the careful consideration of his cabinet.

Public Health in Montreal.—Montreal is engaged in municipal reorganization and there is now a movement on foot to have the department of health controlled by five physicians, who shall be paid an annual salary for their services. A health committee composed of aldermen, oftentimes new at that, is not by many considered satisfactory, as they have no knowledge of medical matters.——Public vaccination has been resumed in Montreal after a discontinuance of several days. Two children who had been vaccinated had died of tetanus and the provincial board of health were required to test the vaccine. Careful tests failed to discover anything wrong with the vaccine.

Hospital News.—The Protestant Hospital for the Insane at Verdun, Quebec, has just completed a new wing for the accommodation of 150 patients. There are at the present time 614 patients in this hospital.——The Montreal General Hospital will shortly commence the erection of a new pathologic department, which will not be surpassed by any similar one on this continent. A large addition to the main hospital building is also being projected. A bond issue of $200,000 for the purpose has been ordered. During the past six months 1,567 patients were treated indoors; in the outdoor, 25,063. During that period legacies had been received to the amount of $7,700. The income was $59,059 and the disbursements amounted to $65,245.

Interprovincial Registration.—This subject was discussed at a special meeting of representatives of the four western Canadian provinces, Manitoba, Saskatchewan, Alberta and British Columbia at Banff, Alta., on the 28th. Dr. Spankie, a member of the Ontario Medical Council, was present, which shows that the Ontario Medical Council is at last awake to the advantages of having interprovincial reciprocity with these provinces. A meeting of the executive council of the Canadian Medical Association is to take place at Toronto on the 11th inst., when a special committee will be appointed on dominion registration; and the provincial medical councils will be asked to appoint a representative on this special committee. The feeling is such amongst the medical profession of Canada at the present time, that it is thought that dominion registration will very soon be an established fact. It is expected that some new legislation will be enacted at the coming session of Parliament which will pave the way for dominion registration.

Personal.—Dr. Thomas G. Roddick, Montreal, sailed from Rotterdam on the 2d of October.——Drs. Alexander McPhedran, W. Henry B. Aikins, Herbert J. Hamilton and Herbert A. Bruce, Toronto, have returned from attending the International Medical Congress at Budapest.——Drs. Richard A. Reeve and Perry G. Goldsmith, Toronto, are in New York.——Dr. Robert H. Craig, Montreal, has returned from Europe.——Dr. Walter H. McKeown, Toronto, after attending the Canadian Medical Association at Winnipeg, returned home, going around via Vancouver, San Francisco, Denver and Chicago.——Dr. William A. Young, Toronto, managing editor of the *Canadian Journal of Medicine and Surgery*, whilst abroad in Europe, was elected president of the American Medical Editors' Association.——Drs. D. J. Gibbs Wishart (chairman), Allen M. Baines, James F. W. Ross, Charles J. Hastings, R. W. Bruce Smith, the president, Dr. Adam H. Wright, and General Secretary Dr. George Elliott are the committee of arrangements for the forty-third annual meeting of the Canadian Medical Association to be held in Toronto on the 1st, 2d, 3d and 4th of June, 1910.——Dr. John N. E. Brown, superintendent of the Toronto General Hospital, and Dr. R. W. Bruce Smith, inspector of hospitals for Ontario, have returned from attending the meeting of the American Hospital Association in Washington, D. C.——Dr. Brodie, the new professor of physiology in the medical department of the University of Toronto, delivered the opening lecture of the medical session this year.——Dr. W. O. Walker has been appointed associate professor in Queen's University, Kingston.——Dr. S. E. Wolbach has been appointed director of the histologic laboratory of McGill University.

FOREIGN

A Physician Made Governor in Siberia.—The large peninsula of Kamchatka, in northern Siberia, has recently been organized into a separate territory, and a physician, Dr. W. Perfiljew, installed as the first governor.

London School of Tropical Medicine.—This institution is to be formally opened Tuesday, October 26. The American ambassador has promised to preside at the opening meeting and an address will be delivered by Dr. Osler. At the school dinner which is to be held at the Savoy Hotel the same evening, Dr. A. G. Bagshawe, director of the Sleeping Sickness Bureau, will preside.

The International American Congress of Medicine and Hygiene.—This congress will be held at Buenos Ayres, May 25, 1910, during the celebration of the centennial of the independence of the Argentine Republic. An international exposition of hygiene is also to be held in connection with the congress, to remain open for six months. Details of the congress, rates, etc., may be obtained from the general secretary, Luis Agote, Medical Faculty, Buenos Ayres, Argentine Republic. There are nine principal sections, including one on sanitary technology, veterinary police, and dental pathology, in addition to the sections on medicine, surgery, biology and public hygiene. The dean of the medical faculty, E. Canton, is president of the organizing committee. Among the special subjects to be discussed are the raising of the standards for medical education, subtropical pathology, hygiene and prophylaxis, malaria and tuberculosis.

The Mexican Prophylactic Society.—The first anniversary of its foundation was recently celebrated by the Mexican *Sociedad Sanitaria y Moral de Profilaxis de las Enfermedades Venereas*, and the work of the year reviewed. A Spanish translation of Fournier's pamphlet, "For Our Sons When They Are 18," was published by the society and large numbers distributed; a second edition was published at the expense of the national army and navy department, and a third edition by the department of agriculture. Regular monthly meetings have been held at Mexico City and various problems of moral prophylaxis discussed, the reports with other original articles appearing in the *Cruz Blanca*, the organ of the society. A special free dispensary for men with venereal diseases has been opened, and lectures have been delivered in the law and engineering schools on the dangers of venereal disease. Dr. J. G. Uruena of the City of Mexico is secretary of the new society.

Prizes Awarded at the International Medical Congress.—As already mentioned, the trachoma prize was not awarded, but the $1,000 prize founded in 1897, by the City of Moscow, was given to O. Hertwig, professor of anatomy and comparative embryology at Berlin, and one of the publishers of the *Archiv für mikroskop. Anatomie und Entwicklungsgeschichte*. The City of Paris prize of $600 was awarded to the serologist, J. Bordet, of Brussels, of complement-deviation fame. The Lenval prize of $80 was divided between Prof. H. Neumann, of Vienna, and Dr. A. Grey, of Glasgow, at the international otology congress which also met at Budapest. It was decided that the international medical congresses should henceforth not be held oftener than once in four years, so that the next congress will not convene until 1913, when it will meet in London. The international committee appointed to prepare the preliminaries for the international medical congresses in future is to have its headquarters at the Hague, near which the secretary, Prof. K. Wenckebach, resides. The members of the committee are Professor Pavy of London, Blondel of Paris, as president and vice-president; the latter is also secretary of the International Medical Press Association, Maragliano of Genoa, Müller of Budapest, and Waldeyer of Berlin. An international association for the study of epilepsy was also organized before the close of the congress, about thirty members forming the provisional international board, including Obersteiner, Oppenheim, Tamburini, Donath and Turner.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Oct. 2, 1909.

Campaign Against Nostrums

It seems that at last the government is waking up to the evils of the unrestricted sale of nostrums in this country. Some time ago, as reported in a previous letter, the General Medical Council appointed a committee to consider the question of unqualified practice, and this body began by investigating the regulations for the control of such practice which exist in other countries. A most valuable and exhaustive report on these regulations was presented to the privy council and the government has decided next session to appoint a royal commission to consider the sale of nostrums. It is thought that this commission is likely to recommend legislation similar to that which exists in many other countries, that the vendors of nostrums will be compelled to disclose on the label the ingredients which enter into their composition. For some time the *British Medical Journal* has been publishing in a series of articles the composition of all the nostrums in the market and the cost of the ingredients. Preparations which are claimed to be infallible cures for all sorts of ailments are shown to be composed of very ordinary ingredients which cost a minute fraction of the price asked. The extent of the nostrum evil in this country is shown by the following figures: Every article sold must bear a government stamp for the year ending March 31, 1908. The revenue derived from these stamps amounted to $1,600,000; the number of articles stamped was 41,757,575, for which it is estimated the public paid $12,000,000. The struggle is certain to be a long and difficult one. The large financial interests involved will obtain very powerful support in several directions. Extensive advertising has rendered the lay press very subservient; even leading journals are not ashamed to publish puffs disguised as editorials. In attacking the nostrum evil another form of opposition will also be encountered. All the various cranks—antivivisectionists, antivaccinationists, Christian scientists, etc.—who entertain extreme views on the liberty of the subject, will oppose any state interference with the sale of nostrums and will represent it as being purely in the interests of the medical profession.

Beriberi in England

At Newcastle-on-Tyne as many as 25 cases of beriberi have been reported. They occurred among the men of the Brazilian warship *Barossa.* One death has occurred, 4 patients have been discharged, and 20 remain in the hospital. The cases bear out the rice hypothesis of the disease, for the Brazilians are rice eaters and the patients had eaten this food three times a day. The health officer, Dr. Harker, has expressed the view that the spread of the disease was due to the sailors converting the forecastle into an incubator by closing the ventilators and lighting stoves.

Malaria Prevention in India

The government of India has decided to take vigorous steps for the prevention of malaria and has ordered a conference to be held on the subject at Simla on October 11. Discussing the question in the *Times*, Major Ross thinks that for rural areas quinin prophylaxis, assisted if possible by screening, is the best measure. For towns and crowded areas opinion is divided; some advocate the same measures here also but others prefer mosquito reduction. The latter has the great advantage that it tends to reduce other mosquito-borne diseases, such as filariasis, which abounds in parts of India. On the other hand, quinin prophylaxis has many disadvantages. Merely to sell or give quinin at dispensaries and post-offices is not sufficient, because the poor cannot afford the time to attend constantly for small doles of the drug. For this measure to be effective the drug must be distributed gratis from house to house for long periods and the occupants must be urged to take it. Some writers claim, however, that in India quinin prophylaxis is cheaper than mosquito reduction. But if this be true for rural areas it is not so for crowded ones.

Malaria Prevention in Sierra Leone

Sierra Leone, which well earned the sobriquet, the "white man's grave," is rapidly losing its reputation. Since the discovery that malaria is due to mosquito bites that scourge has considerably abated. Both Europeans and natives have taken the truth to heart and now take precautions against malaria and other tropical diseases, which were formerly undreamt of. The inhabitants of Freetown (which comprises about one-third of the population) view mosquitoes as bad animals like snakes. The housewife regards the health officer as a friend and does her best to keep her "compound" free from stagnant water. In 1907 the deaths in Freetown from malaria numbered only 202 and last year they dropped to 150. To stimulate the native chiefs to take an interest in sanitation the government offers the prize of a handsome sword to the two chiefs in each district which show the greatest improvement in sanitation. This has proved most effective.

Accident or Disease?

The Workmen's Compensation Act has caused many difficulties in deciding whether the disability of a workman is due to accident or disease. The following case is a new illustration: In 1907 a carpenter was awarded $5 a week compensation from his employer because of an injury to his left arm which was supposed to have preduced dislocation of the ulnar nerve. About a year after the accident similar symptoms appeared in the right arm, and it was discovered that the case was really an example of syringomyelia. As medical opinion was given that the disease had nothing to do with the accident the employer applied to the court for an order to stop the payments. A physician at the hospital in which the patient was treated gave evidence in support of the application, but the resident medical officer of the same institution gave evidence that cases of syringomyelia due to injury had been recorded. In view of the difference of medical opinion the judge would not interfere with the award.

Health Visitors

A remarkable development in sanitary administration in recent years has been the appointment of women as sanitary inspectors and still more recently as "health visitors." Health visitors originated in the voluntary efforts of societies of philanthropic women to improve the sanitary condition of the poor by visiting their houses and instructing them in personal and domestic sanitation. The government has now decided to appoint paid health visitors and has issued regulations on the subject. A woman may qualify herself as a health visitor in five different ways, (1) as a qualified medical practitioner, (2) as a trained nurse, (3) as a certified midwife, (4) by undergoing a course of instruction in a hospital and holding in addition the certificate of certain bodies such as the Royal Sanitary Institute, or (5) by holding some post under a sanitary authority in which she has discharged duties likely to qualify her for the post of health visitor. Health visitors must submit their books when required to do so to the sanitary authority or health officer. The salary will be $500 per annum.

Health of the Navy

The reports on the health of the navy in 1908, which have just been issued, show continued improvement. Not only are the case, invaliding, and death rates lower than the average for the last five years, but the average loss of service per capita has dropped from 11.28 to 10.36 days. The total force was 109,210 and the total number of cases of injury and disease 75,608, which gives a rate of 692 per 1,000, being a decrease of 53 as compared with the average of the preceding five years. The conditions of work in the engine-rooms and stokeholds are the subject of an interesting report by Staff-Surgeon Rees. In regard to heat stroke, he finds that the negro not only has an advantage over the white man in the sun but also in the stokehold. In the sun the lesser diathermacy of his dark skin is an advantage; in the stokehold his skin radiates heat better than the white man's. It is curious that workers in the bunkers are not more liable to heat stroke than those engaged in firing the furnaces, for the bunkers are often much hotter than the stokeholds, while the air in them is often motionless. The explanation appears to be that the stoker working in the bunkers is at once covered with a layer of fine coal dust, which radiates heat much faster than the uncovered body. The best treatment of heat stroke is found to be iced baths.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Sept. 29, 1909.

Preserved Foods

At the annual session of the German Public Health Association (*Deutsches Verein für öffentliche Gesundheitspflege*), held at Zürich early in September, Professor Schottelius gave an address on "Preserved Foods as Popular Diet." While fully recognizing the value of preserved foods in cases in which suitable fresh nutriment cannot be procured or only with great difficulty, he laid great emphasis on the fact that fresh food is more wholesome and more nutritious. In the process of artificial preservation changes occur in the natural composition of the foodstuffs and constituents are lost that are of great importance for the digestion and utilization of the food in the body. In his opinion, preserved foods can be dispensed with in all civilized countries with a temperate climate, as at all seasons a sufficient supply of fresh and well keeping foods is available at low prices. Foods preserved in tins are not to be recommended for general consumption, as there is no sufficient security that they will always meet the demands of hygienic safety, especially as there is nothing to show when the goods were put up.

Night Prices of Druggists

Some time ago permission was given to pharmacists by the Department of Education to add 50 per cent. to the price of medicine delivered at night. At the meeting the German Pharmaceutical Association (*Apotheker-Verein*) held a week ago, it was proposed that this rule should be effective from 9 o'clock in the evening to 7 in the morning, instead of, as hitherto, till 6 a. m. In this way the pharmacist will be still further protected against disturbance of his night's rest. Besides this, an increase in the price of medicines corresponding to the cost of labor is demanded, as the prices heretofore in vogue are not sufficient to meet the demands of the steadily increasing cost of living.

Treatment of Hydrophobia

From a report of the Ministry of Education (*Kultusministerium*) it appears that in 1908 in Prussia 295 persons were injured by animals either rabid or suspected of rabies. Of these persons 279 submitted to the Pasteur treatment. (There is a Pasteur institute in Breslau and one in Berlin.) Of the 279 who were inoculated 2 died and of 16 who were not treated 1 died. In 1907, of 382 inoculated, 2 died; in 1906, 4 out of 342; 1905, 3 out of 322; 1904, 5 out of 330; 1903, 4 out of 281. If only those who were bitten by an animal known to be rabid are considered, 2 of 190 inoculated died in 1908, 2 of 266 in 1907, and 4 out of 236 in 1906.

Birth-rate of Various Nationalities

In an article awarded the prize and published by the Bavarian national statistical bureau on the fertility of different civilized countries, the following figures show a steady decrease in the fertility of married women during the three decades ending in 1905, and also for most countries a decrease in the number of illegitimate births. Among 1,000 married women of the ages from 15 to 50 there occurred of legitimate births:

	1876-1885	1886-1895	1896-1905
In the German Empire..........	268	258	243
In Prussia	273	265	250
In Bavaria	276	263	259
In Saxony	267	250	216
In Würtemberg	288	259	262
In Baden	266	248	251
In Austria	246	250	...
In Hungary	234	224	...
In Italy	248	249	232
In Switzerland	239	230	...
In France	167	150	134
In England and Wales..........	250	229	203
In Scotland	271	255	235
In Ireland	250	245	254
In Belgium	264	236	214
In the Netherlands............	293	286	272
In Denmark	244	235	217
In Sweden	240	231	...
In Norway	262	259	...
In Portugal	...	235	...
In Finland	259	246	...
In Servia	...	237	...

The low birth-rate of France is remarkable, and in the last decade that of England and Wales has shown the nearest approach to it. The low figure for Belgium is in striking contrast to that of the neighboring kingdom of the Netherlands, where for the three decades the maximum of fertility among married women has been observed. In the German empire the legitimate fertility has been most reduced in Saxony, while, on the other hand, in regard to illegitimate births, Saxony has held the first place among the countries named, being passed by Hungary only in the decade 1886-95. If these countries are arranged according to the illegitimate births registered during the last decade (for every 1,000 unmarried women from 15 to 50 years) the order will be shown by the following table:

	1876-1885	1886-1895	1896-1905
In the Kingdom of Saxony.........	47	44	41
In the Kingdom of Bavaria........	42	39	37
In the German Empire.............	28	27	26
In Würtemberg	29	27	25
In Denmark	26	24	23
In Prussia	25	24	22
In Baden	22	20	20
In Italy	24	24	19
In France	16	17	18
In Belgium	19	17	17
In Scotland	20	17	13
In England and Wales.............	13	10	8
In the Netherlands...............	9	9	6
In Ireland	4	5	3

The Cholera Situation

Cholera in Holland is apparently extinguished. In Russia it has been greatly reduced, but is still present. According to the latest available official report, 858 persons were attacked in the week from July 5 to 11, of whom 384 died. Of these 493 were attacked and 229 died in St. Petersburg and its suburbs. That there is a certain danger for us is shown by the fact that a few days ago cholera appeared in a small place in East Prussia in a raftsman and his wife lately returned from Russia. The raftsman died but the wife is convalescing. Naturally the necessary preventive measures have been taken by the Prussian authorities. The change that has taken place in public sentiment in regard to cholera is shown by this circumstance. Twenty years ago these two cases would have created a panic, not only in Prussia but in the whole population of Germany, while now the report of such an attack of cholera is received with the same equanimity as if the cases were cases of typhoid or other infectious disease.

Painless Tooth Extraction

One of our dentists has recently learned that he cannot with impunity advertise to extract teeth without pain, as dentists are accustomed to advertise in the newspapers and on the billboards. He was convicted of an offense against the law regarding improper competition. The plea of the convicted man on appeal that it had not been shown that his patients felt any pain on extraction of teeth was rejected on the ground that, according to the opinion of experts, it was not always possible to guarantee a painless extraction of teeth.

Orthopedic Instruction in Public Schools

For the prevention of spinal curvature orthopedic instruction is to be introduced into the Berlin public schools for such children as show an improper carriage. If the trouble is more advanced the children must be transferred to an orthopedic institute. A commission composed of teachers and physicians is to determine the necessary means.

Distraining of a Patient by a Physician

In the last few days the distraining of a patient by a physician has become a cause célèbre. Both the public and the daily press have busied themselves with the affair. A very well dressed Russian lady entered the office of the well known ear specialist privat docent Dr. Jansen, and at the end of the consultation, in place of the usual fee of $5.00 (20 marks), expressed the wish to pay temporarily only $1.50 (6 marks), because, as she claimed, she had no larger sum with her. The doctor, irritated on account of previous unfortunate experiences, seized the valuable ear-trumpet of the patient, locked it in a closet and declared that she should recover it only on payment of the remainder of the fee. The public has become greatly excited at this alleged inhumanity of the doctor. Dr. Jansen has stated in an interview that he has been cheated out of about $12,000 (50,000 marks) by Russian patients. It has repeatedly happened to him that patients have acted as did the woman referred to; they have paid less than the usual fee as an installment and have disappeared, never to be seen again. It is easy to see that the doctor wished to make an example to guard himself against further imposition. It may be admitted that he could have chosen a more appropriate object to distrain but that is not essential. It may be assumed as very probable that this patient, instructed by her compatriots, had intended to plunder the doctors, for it is not to be supposed that a lady would go on the street in a foreign city with the small sum of 6 marks and further that the usual fee of a specialist should be unknown to her. While the whole affair, with its publicity, may be unpleasant to the doctor, it will have the desirable result for him that Russian ladies who visit his office in future will provide themselves with the necessary fee.

Occurrence of Epidemic Cerebrospinal Meningitis in Prussia in 1908

In 1908, 1,284 cases of epidemic cerebrospinal meningitis were reported as opposed to 2,591 in the previous year. The largest number occurred in the Rhine province (459), next in Westphalia (323), and in Silesia (177). The largest number occurred in spring (609), than in winter (353). Of those attacked in 1908, 738 (57.6 per cent.) were males, 544 (42.4 per cent.) females, 973 (76 per cent.) were children from one to fifteen years, and the mortality was 713 (56.2 per cent.). The mortality has steadily diminished since 1904, a fact which is attributed by the official report to the increased use of serum therapy. The highest per cent. died in the first week after the attack.

Severe Diabetes After Injury to the Head

Prof. v. Noorden has furnished to the imperial insurance office an interesting report on the etiologic connection between an injury and a severe diabetes mellitus which ran its course to a fatal termination in about ten months. A laborer received a severe blow on the head from a heavy piece of iron which was followed by a nosebleed, giddiness and temporary confusion. About three months after the accident a severe diabetes began which ran a very rapid and fatal course. The occurrence of nosebleed indicates, according to v. Noorden, an injury to the bones of the base of the skull. While the trauma was not great, concussions of the brain without anatomic lesion are, however, the most frequent causes for the origin of traumatic diabetes. In consideration of the fact that he has never seen a slowly developing and latent diabetes suddenly develop in an otherwise vigorous man to an especially severe diabetes, v. Noorden comes to the conclusion that the diabetes was produced by the accident. The imperial insurance office has therefore awarded to the survivors of the unforunate man the required income.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Oct. 1, 1909.

A Delicate Problem of Ethics Before the Society of Legal Medicine

During one of the last sessions of the Society of Legal Medicine (*Société de médecine légale*) Dr. Siredey, physician of the Hospitals of Paris, placed the following case before the society and asked its advice. A young physician had observed, within a very short period of time, two cases of poisoning of therapeutic origin, due to a single colleague, who, being very imperfectly acquainted with quantitative dosing, had prescribed 40 drops of tincture of digitalis for an infant of 4 months and 40 gm. (30 scruples) of syrup of narcein (one of the alkaloids of opium) for another of 7 months. In both cases death took place within twenty-four hours. It appeared that this physician ordinarily gave excessive doses to children and that the pharmacists of the quarter, for fear of accidents, generally replaced the drugs called for in the prescriptions by other anodynes. The physician in question had been warned of the results of his prescriptions and had replied that he knew what he was about and needed no advice.

What ought to be the conduct of the physician who had discovered these cases of poisoning? Did not his silence run the risk of making him an accomplice? Dr. Siredey did not wish to advise his young colleague to become an informer but he asked if the physician whose official duty it was to record deaths (*médecin de l'état civil*) should not be notified. It might also be asked whether, to prevent the recurrence of such accidents, the question should not be placed before the "family council" (*conseil de famille*) of the medical society of the *arrondissement* where the incidents occurred. This interesting case gave rise to very warm debates. According to Dr. Balthazard, professor *agrégé* at the Paris medical school (*faculté de médecine de Paris*) the physician who observed the poisoning ought to tell the family that the child was poisoned. If the fault had been committed by a charlatan, one would not hesitate to denounce him; and because a colleague is in question one has not the right to keep silence. Dr. Chassevant, another *agrégé* of the Paris medical school, thought that the physician who observed the mistake ought not to incite the family to prosecute his colleague, but should warn the *médecin de l'état civil* under sealed cover. This was the course proposed by Siredey and the president of the society and approved of by Dr. Granjux, who considered denunciation of the physician not only blamable itself, but also dangerous; for if the physician who caused the poisoning was acquitted by the courts, could he not then turn on his accuser and prosecute him in his turn? A third opinion recommended complete silence. Dr. Descouts believed that the physician who observed the poisoning ought not to warn the public physician, even indirectly, for according to law it is the duty of the latter to ascertain the cause of the death. He may, for example, demand that the prescriptions be furnished him, and thus he will be able to observe that excessive doses have been prescribed.

An interesting point to which Dr. Chassevant drew attention is the complicity on the part of the pharmacist in such cases. The latter is culpable in habitually replacing the dangerous prescription by anodynes which may have led the physician to persevere in his course by causing him to believe that what he was prescribing was not toxic. The duty of the pharmacist is to report to the physician his slips of the pen. Unfortunately, too many pharmacists turn the filling of prescriptions over to apprentices who are not competent to appreciate when a dose is excessive. Dr. Briand cited a case which well shows the unfortunate consequences which may result from the precaution taken by certain pharmacists of diminishing the prescribed dose. A patient was taking arsenic in pills. The pharmacist, finding the dose too strong, reduced it just in proportion as the physician increased it. One day a new apprentice filled the prescription according to order and the patient was poisoned.

Have Physicians the Right of Concerting to Refuse Their Care to a Patient?

In one of my preceding letters (THE JOURNAL, Jan. 16, 1909, lii, 223) I mentioned an interesting decision of the civil court of Châteauroux, to the effect that physicians had the right to refuse their attentions except when legally ordered and that such refusal gave no ground for an action for damages. But another question was also raised in this case—the physician's right to warn his colleagues that the patient did not pay his fees. The case was appealed, and the court of Bourges has just condemned Dr. Babon to pay $100 (500 francs) damages, on the ground that in warning his colleagues, Dr. Babon had performed an act of vengeance and had done a serious injury to his former patient. According to this decision, each physician may refuse his own services to any patient, but he cannot concert with his colleagues for the same purpose.

Sewage Disposal

Since the hygienists have definitely condemned the draining of sewage into running streams, the city of Paris faces an exceedingly complex problem. At great expense in the western suburbs, sewage fields have been created, where the ground, being particularly permeable, allowed the absorption of large quantities of liquid; but still the ground is to-day saturated to such a degree that leguminous vegetables grown on these fields have such a peculiar odor that they are not salable in the markets. It is even demanded that these products should bear a special label, in order that buyers may recognize them. The market-gardeners of the suburb naturally do not favor an increase of the sewage fields. Moreover, this system is now insufficient, not only because of the relatively rapid saturation of the ground, but still more because of the incessant development of the population of Paris. A few years ago, when a third great receptacle for sewage was opened, the administration required that not a drop of refuse water should be thrown into the Seine any more. Now the daily total of the sewage from public and private sources amounts to 206,032,180 gallons, (780,000 cubic meters), and the various fields which receive the sewage absorb daily only about 145,272,050 gallons (550,000 cubic meters); there remains for each daily period of twenty-four hours 60,760,130 gallons (230,000 cubic meters) of sewage draining into the Seine. This situation is evidently intolerable, apart from the fact that the dwellers on the river banks are able to obtain large indemnities for the injury to their interests. The city of Paris, then, is compelled to put a stop to this state of affairs as early as possible. A sum of $3,000,000 (15,000,000 francs) has been set apart for this purpose, but the method to be employed has not yet been selected.

Measures Against Cholera

In accordance with instructions from the government, samples of waters of all the canals and rivers crossing the French frontiers on the north and northeast have been taken and submitted for bacteriologic analysis to the Pasteur Institute of Paris. This analysis has shown that there is no trace of the cholera vibrio in the waters examined. Although the sanitary situation along the frontiers is much more reassuring, the surveillance mentioned in my previous letter (THE JOURNAL, Oct. 2, 1909, liii, 1111) continues to be exercised throughout the north and northeast of France.

The Hygiene of Dwellings

The National Congress on Sanitation and Salubrity of Dwellings, which will be held next month in Paris, has an exceedingly broad program, the subjects being divided into three classes, as follows:

1. General: inquiry into the application of the law of 1902 for the protection of public health; modifications of this law; modifications in sanitary regulations; free spaces in cities.
2. Special: heating and ventilation of buildings; the education of the people in regard to the hygiene of the dwellings; sanitation of buildings occupied by working people who carry on their trades at home.
3. Military: installation of spray baths in barracks; installation of latrines in barracks, encampments and cantonments.

The organizing committee of the congress has addressed to a certain number of medical societies (*syndicats médicaux*) a series of questions in regard to the results of the law of 1902 in respect to the healthfulness of dwellings, unhealthful buildings and the sanitary records (*casiers sanitaires*). These last comprise records of hygienic conditions of each house, the deaths therein by transmissible diseases, disinfections carried out, dates and causes, etc. In Paris this service of the sanitary records has been in operation since 1894; it shows that certain houses constitute veritable hotbeds of tuberculous infection. There are, in fact, 820 houses which, out of a population of 106,300 tenants, have given, in ten years, 11,500 deaths from tuberculosis, more than 14 deaths per house. Unfortunately, the precise information contained in the sanitary records has had, up to the present, no particular results, for these notes are kept secret, in order not to damage the proprietors. The Congress of Tuberculosis, held in Paris in 1905, passed a resolution asking that the public authorities be given the right and the means of condemning all buildings dangerous for the health of the inhabitants, but this resolution has, up to the present, had no legislative sanction. Moreover, there may be some question whether the destruction of unhealthful buildings would in itself insure the hygiene of dwellings, for the building license, which in other countries, in England especially, is burdened with many restrictions in the public interests, is with us a mere formality, so that the buildings which replace the unhealthful ones destroyed may be just as defective. All our legislation on this point really needs thorough revision.

Sectarian Spirit and Medicine

There exists in France, in addition to the colleges and schools (*Facultés et Ecoles*) of medicine which depend on the government, an establishment which is independent of state control, that is the free or catholic school of medicine and pharmacy (*Faculté libre ou catholique de médecine et de pharmacie*) of Lille, whose pupils, however, pass their examinations before a special board determined by the law and receive a diploma from the government, for no one can practice medicine in France unless he is furnished with a diploma of doctor of medicine, given by the French government. Recently the administrative board of the hospitals of Dunkerque, a city in the same department as Lille, a physician decided to open to competition two new posts for medical men, but with the proviso that no candidate would be accepted except a graduate of the Catholic school of Lille. The medical society (*syndicat médical*) of Dunkerque, justly indignant, passed a resolution protesting against this ruling and demanding that the competition be thrown open to every French physician, on the ground that the diploma given by the French government should carry the right of competing on equal terms for public places and functions.

"The Practitioner's Sundays"

Under the title of "The Practitioner's Sundays" (*Dimanches du praticien*) some physicians have organized in Paris a series of lectures intended to keep practitioners informed in regard to scientific progress in all the branches of medicine. They will be held on Sunday, the only day on which many physicians are at liberty. Because of the lively interest felt in all questions in regard to radium and radiotheraphy, the first lectures will be on this subject. M. Matou, assistant at the Museum of Natural History, will speak on radiations and radioactivity. The following Sunday, Dr. Dominici will talk on the therapeutic application of radium.

The Physicians' "Salon"

A physician's artistic society, called L'Esculape, has just been founded. It has organized for next November an exhibition of works of art by physicians (painting, sculpture, engraving and decorative arts). This society, under the patronage of Drs. Gariel, Gilbert, Marcel Labbé, Richelot, Widal, and others, professors and *agrégés* of the Paris medical school, intends also to give literary, dramatic and musical performances.

Correspondence

Warning Against Impostor

To the Editor:—Kindly warn the profession against a dirty, ragged individual who at present is calling on physicians in Brooklyn, soliciting money to get a meal or two with.

The man is about 5 feet 8 inches tall, with light hair and slight cockney accent. He claims to know the physician's relative in England. He also says that he is going to work his way home on an Atlantic transport liner, but has no money.

He has called on two others besides myself in the past few days. I discovered the fraud by casually mentioning my experience to another physician, who immediately described the beggar. The man will probably try to work other cities.

H. W. Boice, Brooklyn, N. Y.

X-Ray Examination.—The first and greatest value of the *x*-ray examination lies in the fact that it gives information regarding conditions existing in the sick or injured individual, which, in some instances, could not be obtained in any other way, or that it amplifies or confirms evidence obtained by the ordinary means of physical examination.—G. H. Stover, in *Denver Medical Times and Utah Medical Journal.*

Pharmacology

BYE CANCER CURE

Another Cruel Fraud Put Out of Business by the Postal Authorities

One of the most impudent quacks in the "cancer cure" business—B. F. Bye of Indianapolis—has just been officially denied the use of the United States mails. In the "Great American Fraud" the Bye "cancer curers" were shown up and the "piety" of Bye senior, who "founded a little church in Indianapolis with the money extracted from his dupes," was commented on. A few years ago the elder Bye ran a cancer cure fake known as the "Dr. D. M. Bye Combination Oil Cure Company" in Indianapolis, with his son-in-law, L. T. Leach, as manager. At the same time, one of the younger Byes—B. F. Bye—was operating a similar and rival concern in the same city. To quote from the "Great American Fraud":

> "Across the street from the Dr. D. M. Bye offices is the 'down-town office and laboratory' of Dr. B. F. Bye. In the circulars this is pictured as a large and commodious brick building, standing far back in an imposing shaded yard. The picture is purely imaginary. So is that of the doctor's 'Sanatorium' in the same pamphlet. The B. F. Bye outfit is ensconced in a shabby wooden house close to the street, and the 'office and laboratory' are little more imposing inside than outside. The younger Bye makes preposterous claims of 82 per cent. of 'complete recoveries.' . . . His treatment wouldn't remove a wart or cure a mosquito bite."
>
> "Dr. B. F. Bye's correspondence is replete with unconscious humor; *vide* this sample from his 'hurry-up' form-letter: 'When I pause and consider the amount of quackery and humbuggery practiced all over the country, it is not difficult to understand why the afflicted hesitate to accept new treatment, no matter how logical it may be.'
>
> "He belongs to most of the fake medical organizations in the country, whose diplomas (purchased) he proudly displays on his walls."

That useful and overworked department of the postoffice that investigates frauds finally notified Dr. B. F. Bye to show cause why a fraud order should not be issued against him and his "cancer cure" outfit. The facts in the case, as submitted to the Postmaster General by R. P. Goodwin, assistant attorney general, are in part as follows:

"Dr. Bye is engaged in treating persons, afflicted with cancer, through the mails. He has succeeded to the business of his father, who for a number of years was engaged in a similar practice at Indianapolis, Indiana. He is also a brother-in-law of Dr. L. T. Leach,[1] who conducts a similar business from Indianapolis and against whom this office has recommended the issuance of a fraud order. While Dr. Bye advertises to have a sanitarium at Indianapolis where he treats personally patients who come there, the fact is he has no sanitarium of his own and such few persons as do go to Indianapolis for sanitarium treatment he locates in boarding houses and such places.

"On receipt of an inquiry about his treatment, it is Dr. Bye's practice to send the correspondent a circular letter, a question blank, a sheet of testimonials and a booklet bearing the following title:

Cancer, Its Etiology, Pathology and Treatment by Soothing Oils, by Benjamin F. Bye, M.D., Fellow of the American Association of Physicians and Surgeons; Member Indiana Association Physicians and Surgeons; Fellow of the Indianapolis Academy of Medicine; Member of the Incorporated Society of Science, Letters and Art of London, England; Physician to St. Luke's Hospital; Surgeon Hillsboro R. R.; Chief Surgeon Indiana 1st Regiment U. R. K. P.; Examiner of Northwestern Life Insurance Co., Etc., Etc., Etc. Office and Laboratory, Indianapolis, Ind.

MEMBERSHIP IN FAKE ORGANIZATIONS

"The inspector endeavored to ascertain the character of the above associations and societies, and from Dr. George H. Simmons, editor of The Journal of the American Medical Association, found that the 'American Association of Physicians and Surgeons' was in existence several years ago and that its business was in selling of diplomas to physicians and that it was made up of men not recognized by the medical profession as physicians of standing; that the 'Society of Science, Letters and Art of London, England,' was a 'fake diploma factory conducted by a man named Sturman,'[2] and that the same description was applicable to St. Luke's Hospital,[3] Niles, Michigan. As to the Indiana Association of Physicians and Surgeons and the Indianapolis Academy of Medicine, Dr. J. N. Hurty, secretary of the State Board of Health of Indiana, stated that he was unable to find any information concerning either of these societies. Dr. Bye admitted to the inspector that he has not been for some time chief surgeon to the Indiana First Regiment, U. R. K. P., or an examiner for the N. W. Life Insurance Company. It is thus seen that the pretense that Dr. Bye is a man who stands high in his profession and who is connected with recognized medical institutions of standing is false. Dr. Bye is a graduate of the American Medical School[4] of Indianapolis, 1896, and claims to have studied in the Kansas City Homeopathic School. He has never been in private practice, and his entire medical experience has been gained in this mail order cancer cure business.

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[1] The details of the government's action against Leach and his fake will appear in an early issue of The Journal.—Ed.

CLAIMS MADE

"The representations contained in the circular letter and the booklet are intended and calculated to lead the correspondent to believe that Dr. Bye has discovered a combination of vegetable oils which is most efficacious in the treatment of cancer and that it will cure practically every case. For this treatment $25.00 is asked. Some of the representations made are quoted below:

> A local treatment and the correct indicated remedy exhibited internally is the only rational one, and to be sure, safe and speedy, the local treatment must destroy the embryonic cells; also the foundation bed or "Stroma," and at the same time preserve the integrity of the surrounding healthy tissues. The combination of vegetable oils, where applied to these malignant growths, has accomplished what is so ardently desired.
>
> The oil soon has the growth under its influence, and the disease is soon absorbed, causing a radical cure without pain. In case the diseased parts have already broken down and we have an open sore, the wound will slough in a short time, then it will heal nicely.
>
> . . . we have found that where the patient will follow our instructions closely a rapid cure is the result.
>
> Don't be misled by the claims of irresponsible people as to their ability to cure cancer by the injection of a specific serum or other substances. . . . We have discovered a combination of oils, which in their effect upon the diseased tissues, approaches the miraculous. It is the only successful remedy known to medical science and has the highest indorsement from the medical profession, as well as from ministers and thousands who have been cured. . . . The Oils are soothing and balmy, safe and sure, and cure without disfigurement.
>
> The Combination Oil Cure does cure cancers and tumors to stay cured.

"The correspondent is also led to believe that Dr. Bye can properly diagnose the malady with which he is afflicted from the question blank.

"If the correspondent fails to purchase the medicines after this first solicitation it is the practice of Dr. Bye to write him another letter in which he states that 'from the information I have received I believe that I can effect a cure in this particular case.' In this letter the price of the treatment is reduced to $12.50; and if the treatment is not purchased pursuant to this solicitation, another letter is mailed the prospective patient in which he is asked to purchase a trial treatment which will last him several weeks for $3.00.

THE "CURE" ANALYZED

"The medicines were analyzed by chemists of the Department of Agriculture, and were found to amount to cotton seed oil and some ordinary tonics."

After giving the details of the analysis the government chemists make the following statement regarding the value of the "cure":

> "Analysis of the above treatment shows that it does not contain a single item which is considered of any special service for the cure or successful treatment of cancer, neither is the entire combination such as to warrant any representation to the effect that it is a cure for cancer."

As to the truthfulness of Bye's claim that he produces 82 per cent. of complete recoveries, the following is enlightening:

THE PERCENTAGE OF "CURES"

"The inspector procured from the post-office records the names and addresses of some twenty persons who have taken Dr. Bye's treatment and corresponded with the postmasters at the post-offices where these parties were located, with regard thereto. This correspondence shows that but one of these patients claims to have been cured, and in this case it develops that a surgeon had removed the growth before the Dr. Bye treatment was undertaken, and this surgeon reports that the growth removed was not cancerous."

In summing up, the assistant attorney-general makes the following statement:

"According to the evidence submitted the medical profession knows of no drug or combination of drugs which can be relied upon to cure cancer. That Dr. Bye has not succeeded where the profession has failed and that he is not honestly endeavoring to cure patients, but that his pretensions to have discovered a cure for this disease are false and fraudulent and asserted merely to deceive and defraud suffering humanity, is revealed by the analysis of his medicines and the finding that they are merely cotton seed oil and some ordinary tonics.

"I find that this is a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises, in violation of Sections 3929 and 4041, of the Revised Statutes, as amended, and therefore recommend that a fraud order be issued against the above named parties."

The order was issued.

MARMOLA

An Obesity "Cure" of the "Prescription Fake" Variety

To the Editor:—Can you give me any information regarding the composition of "Marmola," a remedy used to reduce flesh?

ROBERT S. MCCOMBS, M.D., Philadelphia.

COMMENT: Marmola belongs to a class of nostrums that has become very common since the passage of the national Food and Drugs Act and which descriptively may be called "prescription fakes." By this we mean that the "patent medicine" is advertised, not as such, but as an apparently innocent ingredient in a "prescription" which the reader is urged to have "filled" at the nearest drug store. Many of these advertisements are published in the form of reading matter, giving no indication of their real character. For example: we read in the *New York World* a short article by "Footlights," a supposititious theatrical press agent, who describes how a certain theatrical manager was able to reduce his "over-weight chorus." He did not "starve them into line, nor worry them verbally into shadows. . . . He simply hung up a new rule in the dressing-rooms, to the effect that every lady less than five feet seven who weighed in excess of 150 pounds must take a spoonful after each meal and at bedtime, of the following: One-half ounce Marmola, one-half ounce fluidextract Cascara Aromatic, and three and one-half ounces of Peppermint Water."

This is merely an example of the devious ways in which "patent medicine" vendors, aided and abetted by many newspapers, attempt to humbug the public. The Marmola Company has used the same methods of advertising its products in Great Britain, except that in the place of cascara and peppermint water, we find the prescription reads:

> "One ounce of fluidextract of Glycyrrhiza, B.P., one-half ounce of Marmola, one ounce of pure glycerin, B.P., and three and one-half ounces of peppermint water."

More recently the concern has been varying its methods by advertising Marmola also in tablet form, giving the address of the company and the price of the preparation. The composition of Marmola was discussed in an article on "Commercial Thyroid Preparations" by Drs. Hunt and Seidell in THE JOURNAL, Oct. 24, 1908. It was there shown that the nostrum depended for its action on thyroid extract. Since that time the *British Medical Journal* has also analyzed the product. The results of this examination "showed the presence of (1) a large proportion of a powdered seaweed agreeing well in characters with the powder of *Fucus vesiculosus*, its identity being further indicated by the composition of the ash; (2) a substance of proteid nature, agreeing well in characters with the powder of dried thyroid gland, its identity being further indicated by the presence of iodin in organic combination; (3) phenolphthalein; (4) sodium chlorid (common salt); and (5) extractive." These ingredients, so far as could be determined, were present approximately in the following quantities, to each dose:

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[2] See THE JOURNAL, May 29, 1909, p. 1773, for a more extended exposé of this fake.—ED.

[3] Also exposed in THE JOURNAL, June 24, 1899; Oct. 21, 1899; Nov. 16, 1901; May 23, 1903, and June 6, 1903.—ED.

[4] Now extinct.—ED.

Dried thyroid gland	1.4 gr.
Phenolphthalein	0.4 gr.
Sodium chlorid	0.7 gr.
Powdered *Fucus vesiculosus* (bladderwrack)	5.0 gr.
Extractive	2.5 gr.
Oil of peppermint	trace

The danger of the indiscriminate use by the laity of such potent drugs as thyroid extract is evident, and yet we read: "A safer way of reducing fat cannot be imagined than by the use of this pure Marmola prescription."

Purgen Again

To the Editor:—Those who prescribe "Purgen" may be interested in knowing how its popularity is established in Germany. I am sending with this letter the tissue paper cover of a straw such as is furnished with cold drinks in hotels and restaurants. Printed on the tissue paper is the legend:

PURGEN
DAS IDEALE LAXATIVUM
FRAGEN SIE IHREN ARZT!

How many take the trouble to "ask a doctor" is, of course, a question. As these covers are made in Paris, the exploitation may be even more wide-spread.

George Dock., M.D.

Comment: Purgen, it will be remembered, is one of the numerous proprietary names for phenolphthalein and already has been discussed in The Journal. In Europe advertisements of the preparation are to be seen in the street cars, daily press and even on toilet paper (The Journal, Nov. 2, 1907, p. 1541). In this country it is advertised—directly—only through the medical profession—which is cheaper.

Antidote to Hair Dye Poison

To the Editor:—During the past eighteen months I have seen four cases of poisoning caused by Mrs. Potter's Walnut-Juice Hair Stain, and I wish to offer a suggestion as to the treatment. The parts affected should be covered with gauze, saturated with a solution of sodium hyposulphite (sodium thiosulphate) 1 oz. to 4 oz. of water. This neutralizes the poison on the same principle as it acts when used for "fixing" photographic negatives. The relief from the burning, itching and pain, is almost instantaneous.

Alvin S. Storey, M.D., Cleveland, O.

Comment: The remedy suggested by Dr. Storey will, doubtless, prove of interest to a number of our readers. We have had reported to us no fewer than twenty-one cases of poisoning due to the use of Mrs. Potter's Walnut-Juice Hair Stain. This dye, which, according to published analyses, does not depend for its effect on walnut juice, has recently had its name modified—on the label and container. We see, however, in the daily papers, that the preparation is still advertised as a "Walnut-Juice Hair Stain," and the deception is carried still further by the picture of a woman with a basket on her arm and the legend, "Gathering Walnuts," under it. On the label, however, where direct lying has become illegal, owing to the Pure Food and Drugs Act, it has ceased to be "Walnut-Juice Hair Stain Compound" and has become "Walnut-Tint Hair Stain."

Eade's Gout Pills

To the Editor:—Can you give me any information about "Eade's Gout Pills?" B. S. Denzer, Baltimore.

Answer: This nostrum is made by a British firm, the agents for the United States being Fougera & Co., New York City. The pills are advertised to "Cure Gout, Rheumatism, Rheumatic Gout, Sciatica, Lumbago and all pains in the head, face and limbs." In the report of the Australian Royal Commission on Secret Drugs, Cures and Foods, a qualitative analysis of the nostrum is given as made by Robert Hutchison, M.D., F.R.C.P. According to this, Eade's Pills contain sodium salicylate, guaiacum and aloes.

Miscellany

Treatment of Hookworm Disease.—As many patients can not afford to lose time from work, Dr. C. Wardell Stiles (*Public Health Reports*) advises the devotion of Sunday to the administration of thymol for the expulsion of hookworms. The friends should be warned that the patient is to receive no food containing alcohol, fats or oil, lest absorption of thymol occur. In one case serious thymol poisoning occurred after the patient took a copious drink of milk the day thymol was taken. On Saturday evening a dose of Epsom salts should be given to clear away mucus that surrounds the parasites. The details are as follows:

1. *Position of Patient.*—The patient should be instructed to lie on his right side immediately before taking the drug and to remain in that position for at least half an hour after. The reason for this is that many of these patients have enlarged stomachs, and if they lie on their right side, the drug has the benefit of gravity in passing rapidly from the stomach to the intestine; but if any other position is assumed, the drug may remain in the dilated cardiac portion of the stomach for some hours and result in considerable complaint on the part of the patient and delay of the drug in reaching the worms.

2. *Time of Dosage.*—The time of giving and size of dose should be arranged on one of two plans, depending on existing conditions.

(a) The plan usually followed is: At 6 a. m., one-half of the total dose of thymol; at 8 a. m., one-half of the total dose of thymol; at 10 a. m., Epsom salts (never castor oil).

(b) If the case is an especially severe one, or if the patient has, on the first Sunday's treatment, complained of burning or other effects of thymol, the following plan is adopted: At 6 a. m., one-third of the total dose of thymol; at 7 a. m., one-third of the total dose of thymol; at 8 a. m., one-third of the total dose of thymol (if unpleasant symptoms, as a sensation of severe burning in the stomach, have appeared this third dose should be omitted); at 10 a. m., Epsom salts (never castor oil).

3. *Food.*—No food is allowed until after the 10 o'clock dose of Epsom salts, but the patient is permitted to take a glass or so of water after the thymol, if he desires.

4. *Thymol.*—Finely powdered thymol in capsules, preferably in 5-grain capsules, should be used. Before being powdered the thymol should consist of colorless translucent crystals.

5. *Age.*—The dose should be adapted to the apparent age and strength of the patient. The following represent the maximum amount to be used during one treatment: Under 5 years old, 7½ grains; from 5 to 9 years, 15 grains; from 10 to 14 years, 30 grains; from 15 to 19 years, 45 grains; from 20 to 59 years, 45 grains; above 60 years old, 30 to 45 grains. Total dose to be divided as indicated in Paragraph 2.

Repetition of Treatment.—The foregoing treatment is repeated once a week, preliminary treatment Saturday evening and thymol on Sunday morning, until the patient is discharged.

Duration of Treatment.—To recognize whether the parasites are all expelled, and therefore to determine when to end the thymol treatment, either of two plans may be adopted, namely:

(a) Microscopic examination: On Saturday morning ten microscopi [illegible] esh stool should be made. If eggs are still [illegible] is repeated; if eggs are not found the thym [illegible] takes about forty to sixty minutes to make this examination of ten slides thoroughly.

(b) Cheese-cloth method: A much easier way of recognizing the completion of the treatment, and for practical results nearly as satisfactory as the microscopic examination, is to instruct the patient to wash all of his stools Sunday, Monday, and Tuesday, through a cheese-cloth and to keep the cheese-cloth moist and bring it to the office on Tuesday. While the fecal material will wash through, the worms will be retained in the cloth. Treatment is continued as long as worms are found in the cheese-cloth.

Other Treatment.—If desired, iron may be administered on the days on which the thymol is not taken. It is a good plan, however, not to give iron during the first week, for it is quite important to convince the patient that the thymol treatment is the one which is really accomplishing the lasting good. If the drug is taken Sunday, the patient is likely to begin to feel some benefit by Wednesday or Thursday; his family is likely to notice it on Thursday or Friday. If iron is given during the first week, the conclusion may perhaps be drawn by the patient that it is really the iron which is causing the improvement, and he may discontinue the thymol. Of the two, the thymol is, of course, the far more important, for it reaches the parasite, while the iron reaches only the patient.

Pellagra in Italy.—In spite of the philanthropic and scientific efforts made against pellagra the disease continues to spread in Italy, although the total number of cases is somewhat smaller than formerly. According to a report by Assistant Surgeon R. A. C. Wollenberg (*Public Health Reports*, July 23, 1909) the number of pellagrins in Italy has diminished from 97,855 in 1879 to 55,029 in 1905, and may be estimated as less than 50,000 at the present time. The total number of deaths has markedly diminished from 3,987 in 1898 to 376 in 1907. In 1902 a law was passed making it illegal to sell or to store for sale any immature, musty or spoiled corn. The law also provided government aid for those affected with the disease and authorized the distribution of food to poor pellagrins and their families. It is difficult to enforce the law fully and it is probable that meal made from defective corn or adulterated with such corn products is still sold to a considerable extent. Sanarelli recommends a municipal milling service to overcome this difficulty and the prohibition of milling of deteriorated maize for any purpose whatsoever. The geographic distribution of pellagra in Italy shows that it is spreading to the southern districts and is well established in central Italy, but during the last twenty years the extent of the disease has lessened considerably in the northern part of Italy. The reason for this better showing in the north is not altogether plain, but is partly attributed to the economic, social, and sanitary improvements that have been effected there in recent years. A hereditary predisposition to the disease has been shown. The investigations of Probizer among school children show the offspring of parents afflicted with pellagra to be quite generally of poor development, both physical and mental. In the treatment of the disease, Ghirardini has recently used atoxyl by injection. He states that it is well tolerated and improves the general nutrition, the psychic disturbances, and the ataxia. Gatti used serum from the recovered pellagrin in the treatment of two cases of typhoid pellagra. A general reaction appeared after one hour, with a rise in temperature. The fever was of short duration, defervescence lasting from one to three days, during which time there was a remission of all acute symptoms.

Hookworm Disease and the Negro.—The sociologic importance of hookworm disease is made prominent in a report by C. W. Stiles (*Public Health Reports*, July 30, 1909), who considers especially the relation of the negro to this disease. The worm has been named *Necator americanus*, which means "American murderer," on account of the great loss of life occasioned by it. The disease is known to exist in Africa and it is possible that it was brought to this country by the negro from his native home. The negro is partially immune, so that the symptoms of the disease are less manifest but investigation has disclosed a number of cases in a mild or latent form in the black race. The worm may enter the human system either with food and drink or through the skin and it is probable that the latter mode of entry is the more common. Unhygienic modes of living, especially when they lead to soil pollution greatly favor infection with this parasite. The negro is more likely to lack, or to fail to avail himself of proper privy facilities than the white and in accordance with this tendency it is found that in the southern states hookworm disease is more common in the negroes than in the whites. This is especially true of country districts, where not only farms, but even schools and churches are unprovided with privies. While the direct effects of the disease are less marked in the negroes than in the whites, yet long-continued infection induces anemia, makes the organism less resistant to disease and favors the occurrence of other infections. "In other words," says Stiles, "hookworm infection has an indirect effect in increasing the death rate from pulmonary tuberculosis." As the tuberculosis death rate is about three times as great in the negro as in the white, it is probable that the lessened direct mortality from hookworm disease is compensated for by the increase of tuberculosis as an indirect effect. Another important direct effect is the reduction of intellectual activity and learning capacity during the school period. Children so affected are apt to study and learn with difficulty; this is marked in negro children. The importance of properly constructed privies provided with means to protect soil from pollution and the feces from the access of flies is strongly urged by Stiles. The valuable influences to be exerted by preachers and teachers are thus summed up: "It lies within the power of preachers and teachers to play a very important rôle in reducing the death rate. They are the persons to whom many people look to set the example. If preachers and teachers themselves permit the yards of churches and schools to be defiled by soil pollution, it need not be thought strange if farmers permit soil pollution to occur around the homes. Further, it should be recalled that every church and every school around which soil pollution is permitted to occur may act as a disease-breeding center from which infection can be spread to the farms and homes. Further, also, not only can preachers and teachers do good by setting an example in preventing soil pollution, but if they will point out to their friends the dangers which this pernicious habit carries with it, they can be very important factors in inducing the public to institute more sanitary customs, and thereby they can be important factors in reducing the death rate."

Sense Culture.—P. W. Goldsbury (*Boston Med. and Surg. Jour.*, July 1, 1909), attempts to prove that nerve organs of the special senses, no less than the other organs and muscles, need for their healthful development adjustment of rest and stimulation, and that, as the brain must be rested somewhat by readjustment of energies within itself, the different sense organs may be refreshed by varying and qualifying forms of stimulation peculiar to themselves. Physical culture seeks to recreate by variations of the expressive or muscular activities. Why, asks Goldsbury, should not variations of stimulation for the avenues of impressions, the special senses, be used for their tonic effect? The eye may be rested after protracted use by merely closing the lid. But further rest may also be obtained by the playing off, so to speak, of one sense against another by diverting activity. For instance, if we stand and watch a circus parade for any length of time our eyes soon become tired by the "sights and features;" but the bursts of music from the bands, by stimulating the ear, relieve and freshen the eye. Musical comedy shows how the tax on the eye by the costumes, colorings and lights is relieved by the interpolation of music and songs. Even the popular concert where foods are served has a physiologic basis. The air, the water, and the mud baths peculiar to the famous health resorts called hot springs have a marvelous recuperative effect on tired minds and bodies. They stimulate the skin by drawing the blood to it; they give it healthful exercise and so rest and refresh the brain and eyes and ears that have been tortured by the incessant strain and noise and ugly sights and incidentally by the strenuous life. As the brain is refreshed by a different line of thought, or as the stomach and intestines may be improved by a readjustment of diet, so the senses may be recreated by a change of stimulus. The tired ear may be refreshed by simple variation in the sound it hears; that is, by being afforded stimulation in new directions.

Exercising the eye by change of focus seems to have a tonic effect. Looking from one object to another not only affords muscular but sensory exercise. A change of form affords a change of stimulus for the retina. Different colors may be said to afford qualitative variations in stimuli. The colors of the spectrum stand for a variation of wave length. Under ordinary conditions, red tires the eye sooner than green or brown. Goldsbury has a box with a series of small boards exhibiting different paint stains, and asks the patient to shuffle these over several times a day. For office workers whose eyes are so much on white paper and black ink, these varied tints of color and the grain of the wood afford a little soothing and diverting eye exercise, and occasionally this is found to relieve the headache of eyestrain.

The strong smelling-bottle when used is like a solar plexus blow; instead of this Goldsbury has a little case of four bottles containing mild selected odors. Occasional sniffs from these in turn result in a light form of gymnastics for the olfactory tract. To exercise this tract is to stimulate its circulation and this helps to relieve congestion in overstimulated adjacent tracts, as of the eye or ear, whether in the brain or outside of it.

As the skin is more or less susceptible to the feeling of all textures and dyes for clothing worn, there is plenty of opportunity for regulations as to changes at stated intervals of both inner and outer garments, shoes and stockings. Consideration should also be taken of the reactionary influence of the color of clothing on the eye. Air, water, and sun baths in all their various modifications are, in a way, subsidiary agencies of skin-stimulations. Taste must be indulged by being encouraged to choose more what it likes and by giving it more time to act. This would call for thorough mastication of food and the avoidance of flooding out the mouth when drinking. All the avenues for impressions in all their ramifications must be studied specifically and individually.

Stokes-Adams Disease and Lesions of the Bundle of His.—Vaquez and Esmein (*Bull. et mém. Soc. méd. d. hôp. de Paris*, December, 1908, No. 36) report several cases of Stokes-Adams disease, two of them with autopsy showing lesions (sclerogummous infiltration and old sclerosis) of the bundle of His.

In discussing these cases, besides pointing out its two types, they deduce some therapeutic conclusions of interest. Out of twenty cases of which they have found sufficient clinical and anatomic reports, syphilis was the certain etiologic factor in seven, and the probable one in a number of others. In the early stages of the disorder they advise therefore a resort, as quickly as possible, to specific medication, whether there is a history of luetic infection or not. By this means we have a chance to multiply the number of cases in which the condition does not progress until incurable sclerosis has occurred. In the same issue of the *Bulletin* and apropos to the communication of MM. Vaquez and Esmein, M. Louis Renon gives the history of a case of the disorder, seen in the first stages, with a syphilitic history dating back ten years. On the suspicion that he might have to do with a specific disease of the bundle of His, Renon treated the patient with antisyphilitic injections. These resulted in great amelioration of the patient's condition, although he can not call it a definite cure. The treatment has perhaps arrested the progress of the disorder and prevented its passing into the later stage characterized by permanent slow pulse, as pointed out by Vaquez and Esmein.

Building of Sanatoriums.—T. S. Carrington (*Journal of the Outdoor Life*, September, 1909) gives some suggestions as to the site and construction of sanatoriums. The sanatorium may do society harm if it places patients in luxurious surroundings and creates a mental state that will unfit them for the life to which they must return. Excellent results have been obtained by institutions providing only the actual necessities of life, and the observance of simplicity and economy in sanatorium construction avoids the danger of ruining the citizen while curing the individual. In selecting a site proximity, accessibility to friends and the former homes of the patients should be regarded as great advantages, but if the institution is to be a large one the climatic factor must be considered. It is well to remember that vastly differing climatic conditions are often found within a radius of a few miles. The southern exposure of a hill or mountain is usually to be preferred, and sites where strong prevailing winds exist during certain seasons of the year should be avoided. Some sort of an administration building should be provided and the lean-tos or cottages grouped about it; or if the institution is very large, separate groups of buildings should have separate local administration apartments in connection by telephone with a central administration building. Unless the climatic conditions necessitate corridors to connect the buildings, they may be omitted. Every effort should be made to give to the patients' quarters the most pleasant outlook possible. The lean-to style of building is at once the most economical and secures the best supply of fresh air, but even with one side of the room entirely open, ventilation must not be neglected or the air may become foul.

The Card Index System for Circularizing.—M. Perrin writes to the *Presse Médicale*, August 14, 1909, to suggest that persons advertising automobiles, sanatoriums, etc., should adopt the international card index form for their advertisements sent to individuals, which can then be readily classified like the card index in the libraries. These interchangeable cards for the international uniform index system are always 125x75 mm. (about 5x3 inches). He gives some examples and urges the great value of this method of advertising which would much facilitate ready reference, instead of the heterogeneous mass of circulars, pamphlets, etc., which now flood the mail and which it is impossible to preserve conveniently, much less to classify for ready reference.

Brain Storm.—At a meeting of the Chester County Medical Society, Dr. Frank Woodbury, secretary of the committee on lunacy in Pennsylvania, defined brain storm as a figure of speech used to express the idea of a sudden attack of mental perturbation. By analogy it graphically illustrates a psychic or mental commotion by calling to the mind of the hearer or reader the associated idea of a familiar physical phenomenon. Analogous terms used by writers in describing the same emotion have been "mental whirlwind," "maniacal explosion," "stormy irregularity of temperament attending maniacal outbursts," and "a hideous whirlpool of emotion." A summary of Dr. Woodbury's definition of "brain storm" is as follows: 1. Brain storm is a phrase familiarly used to describe brief states of mental emotion or perturbation without reference to their cause; it is a popular and not a scientific term. 2. Such attacks may be influenced by atmospheric and climatic conditions to an extent not usually known or suspected. 3. The presumed proximate causes in such cases are only incidental; they only lay the match to the mine which produces the explosion; the real causes lie deeper. Emotional, confusional conditions may occur in apparently normal persons, but are encountered more frequently among the insane. 5. Brain storms, so called, will be observed most frequently in persons who are neurasthenic and in a depressed vital condition; they are frequently epileptic or epileptiform. 6. Brain storms usually indicate pathologic conditions of the body or mind, but they are symptomatic of general conditions and are not of specific significance. Violent outbursts of rage or emotion have medical importance, and when of frequent occurrence should be investigated by a physician skilled in mental disorders.

Osteopathy Is Limited in New York.—We quote the following from an editorial in the *New York Commercial*, Sept. 21, 1909: "Not only the medical fraternity but the public as well will be deeply interested in the latest phase of the controversy over the legal and the medical standing of the osteopaths. One of the leading practitioners of this school in Brooklyn has just been denied by Justice Crane of the supreme court an injunction compelling the New York City authorities to grant him the same privilege of issuing death certificates for burial purposes as is enjoyed by regular graduate and licensed physicians. And the decision appears to be not only the only one that would be made under the circumstances, but also to be logical and eminently fair.

"It will be recalled that some months ago this same osteopath and his associates secured from the New York court of appeals an opinion that sustained them in their claims and contentions—that a licensed osteopath is not only a physician but under the sanitary code is also empowered to issue death certificates—but it plainly, although delicately, intimated that the code ought to be changed so as to make a distinction between the two classes of practitioners. This decision said in part:

" 'Where death is caused by criminal means it usually occurs through external violence or from poison. The osteopath is precluded by the law from practising surgery or administering drugs, presumably for the reason that his education does not qualify him to practice where either drugs or surgery may be necessary. I am therefore not prepared to say that the board of health may not properly require that a certificate of death, which would exclude from the cause thereof either wounds or poison, be made by a physician who is competent to judge such matters. It is sufficient for the disposition of this case to say that the sanitary code now in force draws no such distinction between the two classes of physicians; but I think we should not intimate that the sanitary code may not properly be amended in this respect.' "

"The adroit use of negatives in this ruling is somewhat unique. The board of health understood the suggestion, however, and the change was promptly made—and with propriety, too. For how can a practitioner prohibited by law to practice surgery testify competently as to whether or not an apparently fractured skull is really fractured? Or how can one not permitted to administer drugs make oath that carbolic acid was the cause of a suicide's death?"

Treatment of Pleurisy.—A. Jacobi, in the *Monthly Cyclopedia and Medical Bulletin*, states that dry pleurisy with its excessive pain, demands morphin, never internally, but subcutaneously. Internally it will have no effect such as one wants; subcutaneously, that means locally over the seat of the pain, it will never fail. It will not cure the pleurisy, but will relieve and aid in curing the patient. Cough and sleeplessness caused by pain, must be relieved by an opiate. The physician may kill the patient by not relieving him. The fanatic interdiction of opium in the cases of infants is copied from one text-book into the next by those who treat people at their desks and not at the bedside.

A Longevity Trust.—The Metropolitan Life Insurance Company, in its campaign against tuberculosis, has issued for the instruction of its policy-holders, 3,500,000 pamphlets on the treatment and care of tuberculosis in the home, and proposes to establish a large sanitarium in the northern part of the State of New York, for the treatment of advanced tuberculosis among its policy-holders. The New York *Times*, commenting on this movement, says editorially that the term "life-insurance" never meant the insuring of lives until this year; that the agents of the companies "might easily be transformed into a militant body of health agents," armed with advice in regard to hygienic living for the benefit of the millions of policy-holders; and that "a staff of visiting physicians, specialists in the chief diseases," might be sent to treat policy-holders in each community who could not otherwise command skilled medical services. "By such work," continues the *Times*, "the companies would have fewer death claims to pay. They could promise larger benefits. But this, which has hitherto been a deciding argument in insurance competition, is only incidental to the added promise that the policy-holder's life, which is of quite inestimable value to his family, would be guarded. The competition of the life insurance companies, once started toward the prolongation of their patrons' lives, will not end until not only tuberculosis, but all the diseases that figure largely in the actuarial tables, become the subject of skilled attention. The lives of most men who can afford to employ a doctor are already 'insured.' Ultimately, we presume, those physicians not retained by the companies would be reduced to treating minor ills, or forced quite out of their profession. The organization of preventive medicine has reached startling proportions, but it has failed to keep pace with the progress of medical science. This progress is so rapid that the medical colleges complain that they can not catch up in their equipment. But if the new departure in life-insurance means anything, it means that the companies are beginning to resolve themselves into what they have an inherent right to be—companies of physicians—a longevity trust."

Cottonseed Oil Superior to Olive Oil.—So much emphasis has been placed on the fraudulent adulteration of olive oil by means of cottonseed oil that the impression has become very general that cottonseed oil was not suitable for the human stomach. The manufacturers of cottonseed oil in the south are evidently commencing a propaganda of education. If some of the statements we have seen are correct, cottonseed oil should be able to stand on its own merits as a food and to supplant olive oil to a certain extent. Because of the interest which attaches itself to this question, but without any investigation as to the accuracy of the statements, we abstract the following from an article which was published in *Life and Health* by Dr. O. C. Godsmark: The absolute purity and freedom from disease contamination, which obtain in the production of cottonseed oil, make this oil valuable as a food commodity. It is said to be more readily received and assimilated into the system than peanut butter, corn oil, or even the pure olive oil itself. Professor Moore of Arkansas State University states that of 100 parts of pure cottonseed oil, 93.37 parts are digested; of olive oil, 88.81 parts; of peanut oil, 85.87 parts; of corn oil, 86.47 parts; while of beef suet but 73.66 parts in 100 are digested. The substitution of the pure cottonseed oil in emulsions, in place of cod-liver oil, has been urged, and is even now being done. In the treatment of tuberculosis, when the emulsion is used, 25 out of 100 persons can use cod-liver oil emulsion, 75 out of 100 can take the emulsion when cottonseed oil is used, it being that much more easily assimilated by the weakened digestive organs of the patient. Dr. H. W. Wiley says that one unit of cottonseed oil will furnish over twice as much heat and energy as the same quantity of sugar or starch. When used with salt on bread, it makes a very acceptable substitute for cream and butter, and certainly is free from the diseases we contract from the animal world. Not only is cottonseed oil more easily digested than corn oil, peanut butter and even olive oil, but it also does not ferment in the stomach and bring on that long train of evils that have come from the too abundant use of some of the articles mentioned.

Book Notices

THE PSYCHOLOGY OF DEMENTIA PRÆCOX. By Dr. C. G. Jung, Privat-Docent in Psychiatry, University of Zurich. Authorized Translation with Introduction by Frederick Peterson, M.D., Professor of Psychiatry, Columbia University, New York, and A. A. Brill, Ph.B., M.D., Assistant in Psychiatry, Columbia University, New York. Paper. Pp. 153. Price, $2. New York: The Journal of Nervous and Mental Disease Publishing Co., 1909.

As a term of diagnosis "insanity" has become almost as meaningless as "paralysis," "apoplexy," "chorea" and "water on the brain." Even "mania," "melancholia," "paranoia" and "dementia" are fast losing their scientific significance, if indeed they ever had any. The word "psychosis," borrowed from psychology and applied scientifically, in modern psychiatry, to all states of unwonted mentalization, is coming more and more to stand for a particular class of phenomena, namely, individual psychophysiologic reaction to environment.

In consonance with the newer teachings of psychology it is beginning to be recognized that there are no mental diseases in the old sense, capable of classification as distinct and separate entities, but that there are merely broad and general groups of symptoms and strange mental exhibitions, each group indicating in a gross way the individual's bias or personal idiosyncrasy. Personality is a functional synthesis evolved under the influence of heredity and environment, a fact which explains why each patient has, so to say, his own psychosis or insanity.

In modern psychiatry, therefore, quite a new point of view has been assumed whereby more stress is laid on the cause, course and conclusion of the case than used to be done and far less on the mere strangeness and incongruity of the symptomatic display. Indeed, the symptoms of insanity are now regarded as quite unreliable for the purposes of diagnosis until they and the patient have been subjected to the closest sort of psychoanalysis. It has been more than once demonstrated that there is no more justification for the diagnosis of insanity on the strangeness merely of the patient's thinking and acting than there would be in making such a diagnosis on the strangeness of the thinking and acting of a savage.

So transcendingly important have become the patient's individual heredity and environment in modern psychiatry that these factors must be kept ever foremost in the mind of the examiner during a psychoanalysis. Not for a moment to-day will mere queerness and singularity of thought and action serve as conclusive evidence of mental aberration; only the relationship of the patient's thought and action to the thought and action of his previous state, his family, his neighborhood, race, and nation and all those elements and factors that fall within the sphere of his own heredity and environment, will finally determine whether he is, or is not, insane.

This new point of view of modern psychiatry, which unfortunately has not yet been fully recognized by the courts or the rank and file of the profession, and which will probably not be so recognized for a long time to come because of the almost universal lack of training in psychology and because of the great labor and skill required in the making of a thorough psychologic examination, is being taken by many of the more advanced thinkers. As a method of study it opens up quite a new field. Among the earlier pioneers to enter this field Breuer and Freud deserve great credit for their many exhaustive psychoanalyses and the brilliant light they have shed on the nature and symptoms of hysteria, dreams, and dream states. Recognizing this, Jung, another pioneer, has attempted to explain the general, indefinite form of mental aberration to which Kraepelin has given the name "dementia præcox" and of which he has so admirably described the clinical features, on the basis of individual psychoanalysis. Jung's dominant suggestion, running all through his book, is that a close psychoanalysis of each case of so-called dementia præcox ought to and does enable us to correlate all the clinical manifestations with the known data of the patient's particular personality as it has been elaborated by his known heredity and environment. In other words, dementia præcox is not to be regarded as a disease entity, but merely as a state of mind capable of analysis and explanation on a basis of individual and comparative psychophysiology.

Though "this work is the fruit of three years' experimental labor and clinical observation," Jung modestly disclaims having attempted more than to show how, by certain psychologic investigations, he reached views which he deems "fit for the stimulation of the problems of the individual psychologic basis of dementia præcox in a new and fruitful direction." In this, we think, he has succeeded admirably and with Dr. Peterson, who writes a most illuminating introduction to the book, we agree that Jung shows that just as in normal individuals and in hysteria the complex continues to play its part in dementia præcox, and as it does in dreams, the psychosis tends to actualize the repressed wishes from normal life;" and furthermore, that "the otherwise known absurdities and incomprehensibilities become quite clear," by reason of every case having "its special interests and its own individuality."

There are five chapters in the book. The first is devoted to a semi-historical and critical presentation of the earlier theories of the psychology of dementia præcox. The second is occupied with a study of the emotional complex and its general action on the psyche. "The essential basis of our personality is affectivity. Thought and action are only, as it were, symptoms of affectivity." In Chapter 3 the influence of the emotional complex on association is examined, with abundant illustration. In Chapter 4 an interesting parallel is drawn between dementia præcox and hysteria. "Between hysteria and dementia præcox there is only a resemblance of the psychologic mechanisms but no identity. In dementia præcox these mechanisms reach much deeper, perhaps, because they are complicated by toxic effects." And yet while there is no identity, it is nevertheless true, as Jung affirms, that "the psychologic mechanisms of dreams and hysteria are most closely related to those of dementia præcox. . . . The dreamer finds himself in a new and different world which he has projected out of himself. Let the dreamer walk about and act like one awakened and we have the clinical picture of dementia præcox." The entire fifth chapter, the longest and perhaps the most valuable, is taken up with the analysis of a case of paranoid dementia as a paradigm.

To those who would like to learn the trend of modern psychiatric investigation and to note the valuable contributions of the newer psychology to the solution of the intricate problems of mental disease we would urgently recommend the reading of Jung's work, both for its stimulating effect toward further thought and as an illustration of what a thorough psychologic analysis and diagnosis of a case of mental disease involves or presupposes in the examiner.

The translator and editor are to be highly complimented on the skill with which they have given to the American reader a correct and lucid presentation of one of that class of books usually considered the hardest to comprehend, namely, those devoted to the problems in abnormal psychology.

INFANT FEEDING. By J. S. Fowler, M.D., F.R.C.P., Physician to the Royal Hospital for Sick Children, Edinburgh. Cloth. Pp. 230, with illustrations. Price, $1.50. New York: Oxford University Press, 1909.

This very attractive little flexible-covered manual is a worthy companion to the many compact, simple and extremely lucid guides to infant-feeding that have come to us from time to time from English pediatricians. While in many ways following ideas current in England and the United States, it has a marked individuality and we find different methods giving a greater or less proportional value as a result of Dr. Fowler's own experiences. Thus he devotes ten pages to Budin's method of feeding undiluted sterilized (forty minutes) cow's milk to nearly all infants, and reports results but little less favorable than those of the French author himself. Relatively little is said of sodium citrate, and then it is recommended only to meet certain definite indications, and not as a sort of infant-feeding panacea, to which some of Dr. Fowler's countrymen have exalted it. Dr. Fowler is lukewarm in his attitude toward the percentage system, "a method still largely employed in America," and while he is unstinted in his commendation of the great work done by Rotch, he does not believe that the minute fractional elaboration of that system has any practical value. The book does not, of course, as yet reflect the recent German advances, but is an admirable, clean-cut, sane presentation of this complex subject up to that point.

BACTERIAL FOOD POISONING. By Prof. Dr. A. Dieudonné, Munich. Translated and Edited, with Additions, by Dr. Charles Frederick Bolduan, Bacteriologist, Research Laboratory, Department of Health, City of New York. Cloth. Pp. 128. Price, $1.00. New York: E. B. Treat & Co., 1909.

Dr. Dieudonné maintains the position that most cases of food poisoning are due to the contamination of foods by certain specific bacteria. The *Bacillus proteus* in particular is incriminated; an arraignment not easy to understand in so far as the proteus bacillus is very extensively distributed, while typical cases of food-poisoning are very rare. *Bacillus enteritidis*, *Bacillus paratyphi* and the anaërobic *Bacillus botulinus* are all carefully discussed and their more or less hypothetical rôle in the production of various forms of food-poisoning explained. Ptomain poisoning by autolysis without the intervention of bacteria is not at all considered. Food intoxication by metallic poisons is declared to be much more rare than commonly assumed, but the facts adduced in favor of this view are rather scanty and the argument not altogether convincing.

Too much space is given to the purely bacteriologic aspect of the question, as for instance the cultural characteristics and the morphology of various well-known bacteria; not enough attention is bestowed on the finer details of symptomatology and diagnosis. The rules of prophylaxis are in some instances almost naive, as for instance, "meat showing evidence of putrefaction should not be eaten;" nearly all the other rules of prophylaxis are trite and essentially amount to a plea for cleanliness in the handling, preservation and preparation of foods. Here and there a suggestion is made in regard to serodiagnosis, but no definitely new facts are given; nor does it seem feasible from a clinical standpoint to attempt the serodiagnosis of a series of disorders, apparently of manifold origin, that either run a rapidly fatal course or quickly hasten to spontaneous recovery. The treatment advised is essentially eliminative and symptomatic. All in all, the book is an interesting review of the whole subject of food-poisoning, well classified and complete from the historic and casuistic standpoint; it is a convenient reference work for the bacteriologist and pathologist, but of relatively small clinical value to the practitioner. The translation is very good.

THE THERAPEUTICS OF RADIANT LIGHT AND HEAT AND CONVECTIVE HEAT. By William Benham Snow, M.D., Author of "A Manual on Electro-Static Modes of Application, Therapeutics, Radiography, and Radiotherapy." Cloth. Pp. 119. Price, $2. New York: Scientific Authors' Publishing Co., 349 W. 57th St.

This manual of 110 large octavo pages is devoted to the therapeutic application of the various forms of radiant energy. It is hard to classify some of the books on the therapeutics of radiant energy. They are not entitled to be classed as fiction; neither are they narratives of facts as the unenthusiastic observer sees them. The authors will assume some law of "harmonic vibration" or something of that kind, and then from such premises will by deduction arrive at a system of physical therapeutics. Pathology does not play a very important part in such systems, but they are strong on the influence of various "modalities" on molecules and cells and metabolism. The style usually suggests that in which other systems of therapeutics, most of them of lamented memory, were set forth with their enthusiasm, their innocent superiority to critical analysis, and their unbounded love for panaceas.

The book before us belongs in this class. "In accord with the law of harmonic vibration, it is probable that the tissues attune themselves from a source of mixed vibrations, as of the combined spectral vibrations of radiant light and heat, deriving therefrom by selection the kind of energy which sets up and restores functional activity. . . ."

"These higher frequencies of radiant energy conserve the chemical actions and the more gross and energetic mechanical agencies, as certain electrical modalities, mechanical vibration and exercise conserve the mechanical demands for relieving stasis and infiltration, and also increasing the activity of the grosser functions of the organism."

"From the point of view suggested by the above premises it will be recognized that the study of the application of these vibratory agents to therapeutics suggests the investigation of the principles of adaptation of external vibratory energy to the restoration of the body, properly sustained, to its normal vibration in all its parts, as evidenced by the revival of health with the restoration of functional activities." And there you are—a bit groggy, doubtless, but still conscious. Of course a book which starts off with such metaphysics can not be followed very far by one who keeps his feet on the earth.

The Elements of Hygiene for Schools. Compiled by Isabel McIsaac, Collaborator of the *American Journal of Nursing*. Cloth. Pp. 172. Price, 60 cents. New York: Macmillan Company, 1909.

This is a presentation of the subject of hygiene in such a way as to be of practical use to pupils in the public schools who will probably have no further opportunity to study the subject. The first chapter is devoted to bacteriology, not only in relation to disease, but to housekeeping, farming and various industries. The hygiene of occupation is discussed at some length. A chapter is devoted to food and in it are discussed the composition of various animal and vegetable foods and the methods of preparing them. Subsequent chapters deal with air, climate, ventilation, etc.; heating and lighting; purification of water; care of sewage and garbage; causes and dissemination of disease; personal, household and school hygiene; disinfection and quarantine. The book is a valuable one and to be commended.

Self-Help for Nervous Women. By John K. Mitchell, M.D., Fellow of the College of Physicians of Philadelphia. Cloth. Pp. 201. Price, $1.00. Philadelphia: J. B. Lippincott Co.

This is a reprint, as stated in the preface, of a series of articles published in 1901 in *Harper's Bazar*, but added to and amended from the suggestions given in the numerous communications received by Dr. Mitchell from correspondents since the first publication. It is not intended for physicians, but it has the medical interest of being the advice to the laity of an experienced practitioner in the treatment of these nervous disorders. There is little or nothing in it that can be criticized by any physician, and some of us might perhaps profit by some little practical hints here and there in its pages. Dr. Mitchell has added his opinion of the so-called Emmanuel movement and of the therapeutic efforts of clergymen in general to the original material of his chapters. He says, in this connection, that while, in his experience, their efforts to afford assistance, in cases in which the nervous sufferers have been referred to them, have as often as not been unsuccessful, the only religious sect in which he has not met these cases is that of the Quakers. This, considering the opportunities for observation he must have had, is of interest. He attributes this to the cultivation of emotional control among Quakers, but it may also be due, it seems to us, to a natural and artificial selection process that has weeded out those who would be most subject to the forms of abnormal mentality here described.

Treatment of the Diseases of Children. By Charles Gilmore [illegible] iseases of Children in the New York [illegible] nd Hospital. *Edition 2. Cloth.* Pp. [illegible] Price, $5. Philadelphia: W. B. Saunders Co., 1909.

The natural assumption of meritorious qualities in a book which has reached a second edition will not be reversed by an examination of this work. It is intended especially for practitioners and is full of suggestions and details which can not fail to make it useful to every one who has to deal with children, either sick or well.

Nicholas Senn. An Appreciation. Published under the auspices of the Nicholas Senn Club of Chicago. By S. M. Wylie, M.D., Paxton, Ill. Cloth. Pp. 27.

This little book was written, says Dr. Wylie, "in fulfillment of a promise made to him [Senn] many times, a compact, mutually agreed on, whereby one of us, God alone knew which, was to perform this service for the other." While in no sense a biography, yet many interesting facts of a biographic nature are given—touches that make the dead surgeon live again. By those who, like Dr. Wylie, were close personal friends of Dr. Senn as well as by those who, while unacquainted with him, yet entertained the highest respect for him both as a man and as a surgeon, this little "appreciation" will be read with pleasure and interest.

Festskrift vid Tuberkulos-Konferensen I Stockholm, 1909. Paper. Pp. 136, with illustrations. Utgifven af Svenska Nationalföreningen Mot Tuberkulos.

Although this pamphlet has a Swedish title, not difficult to understand, that language is entirely avoided in the text; the articles being printed in German, French or English. They cover a considerable number of subjects, relating to the campaign against tuberculosis in Sweden. The first is a general review of the activity of the Swedish National Association against Tuberculosis from 1904 to 1908, in German, by B. Buhre. Next follows an account of the institutional treatment of tuberculosis, comprising two articles, one in French by J. G. Edgren, and the other in English by S. Carlsson. Other articles deal with the sale of charity stamps, the occurrence of tuberculosis in public schools, social hygienic experiments, bovine tuberculosis, and an epidemic of consumption in the commune of Orsa. The book will prove of great interest to those engaged in the campaign against tuberculosis.

Medical and Surgical Report of the Presbyterian Hospital in the City of New York. Vol. VIII, December, 1908. Edited by John S. Thacher, M.D., and George Woolsey, M.D. Boards. Pp. 371, with illustrations.

This report consists mainly of papers by members of the hospital staff, usually reprinted from medical journals. An interesting feature described by W. P. Northrup is the open-air roof-wards which have been established through the generosity of Mr. and Mrs. W. K. Vanderbilt. Experience has shown that for day and night continuous treatment the open roof-wards have done better service than balconies. The volume contains a number of valuable papers which reflect credit on both authors and the institution.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

BARTLETT METHOD OF PREPARING CATGUT

To the Editor:—Please publish in The Journal the formula used in preparing catgut by the Bartlett method.

P. H. Provandie, Melrose Highlands, Mass.

Answer.—The following is the method advised by Dr. Willard Bartlett:

The strands are cut in convenient length, say 30 inches, and made into little coils about as large as a silver quarter. These coils are then strung like beads on a thread so that the whole quantity can be conveniently handled by simply grasping the thread. The string of catgut coils is dried for one hour at a temperature of 180 F. and then for a second hour at 220 F., the change in temperature being accomplished gradually. The catgut is then placed in liquid petrolatum, where it is allowed to remain until perfectly clear, in the sense that the term is used in the preparation of histologic specimens. This is usually accomplished in a few hours, though it has been Bartlett's custom to allow the gut to remain in the oil over night. The vessel containing the oil is next placed on a sand-bath and the temperature raised during one hour to 320 F., and this temperature is maintained for a second hour. By seizing the thread with sterile forceps the catgut is lifted out of the oil and placed in a mixture of iodin crystals, 1 part, in Columbian spirits, 100 parts. In this fluid it is stored permanently, and is ready for use in twenty-four hours; the thread is then cut and withdrawn. Thorough preliminary drying is essential; success is only possible when this is carried out in a very dry room and preferably in dry weather. Dr. Bartlett now stores it in a 1 to 1000 iodin solution in Columbian spirits (methyl-alcohol, 97 to 98.5 per cent.).

UHLENHUTH'S METHOD OF BLOOD DIFFERENTIATION

To the Editor:—Please inform me through the columns of The Journal, the full technic of Uhlenhuth's method of blood differentiation, as used in medicolegal work. B. R. LeRoy, Athens, O.

Answer.—The following is the technic as described by Peterson and Haines, in their "Text-Book of Legal Medicine and Toxicology," Vol. ii, p. 751: The method of humanizing a rabbit is to inject into the peritoneal cavity about 10 c.c. of human blood serum at intervals of two or three days until the rabbit has received 6 or 8 injections. The rabbit should be allowed to rest about a week after the last injection. The blood serum for performing the test may then be obtained either by killing the animal by bleeding it from one of the large vessels, or without killing the animal by removing a little blood from one of the large veins of the ear. The blood thus collected should be placed in a cool place and allowed to coagulate. The serum that separates from the clot may be used for performing the test.

The blood to be tested should be prepared as follows: If it be fresh blood, it should be diluted about 1 to 100 with normal salt solution. Thus diluted, it should have a light-pink color, and this diluted solution, if not perfectly clear, should be allowed to settle until it is clear, and the clear, supernatant fluid decanted into another test-tube. If the blood to be tested is a dry blood-stain, a little of it may be scraped off with the point of a knife on to a watch-glass, if the stain be on some hard surface so that the blood has not penetrated into the substance of the material. If the blood-stain be on cloth into which the blood has soaked, it is necessary to cut out a few threads and transfer them to a watch-glass. These fragments of dried blood should then be treated with two or three drops of distilled water until the soluble portion of the dried blood has been dissolved. The clear solution should then be transferred carefully to a very narrow test-tube, and to this should be added an equal volume of double normal salt solution. The clear fluid thus obtained either by diluting fresh blood or by dissolving the blood serum from the dried blood-stain is then tested by adding to it a few drops of the serum obtained as above described from the humanized rabbit. If the solutions contain human blood serum, there will occur an immediate cloudiness that gradually increases, so that there is a distinct precipitation within one-half hour after the addition of the serum from the humanized rabbit. It is better often to allow the antiserum to flow down the side of the test-tube, so as to form a separate layer under the solution to be tested, in the same way that we add nitric acid to urine in testing for albumin. In this case the cloudiness and precipitate may be seen very distinctly in the zone at the point of contact of the two fluids. The precipitate occurs best when the mixture is kept at a temperature of about 37° C.

Ewing has shown that, in applying the serum test, it is important that the solution of the blood under examination be not too strong; if it is too concentrated, the blood of some of the lower animals may react to a greater or less degree. At a dilution, however, of at least 1 to 50 the blood of lower animals fails to give a reaction, and the test becomes a specific one for human blood. Dilution of the serum is even better than dilution of the blood.

TUBERCULOSIS OF FEMALE GENITALIA

To the Editor:—Please give me references to literature on tuberculosis of the female genitalia. A. Belitz, Milwaukee, Wis.

Answer.—The following articles may be referred to:

Martin, A. Genital Tuberculosis, *Berl. klin. Wchnschr.*, Jan. 30, 1908; abstr. in The Journal, Feb. 22, 1908, p. 650.

Baisch, K.: Ultimate Results of Treatment of Genital and Peritoneal Tuberculosis, *Arch. f. Gynäk.*, lxxxiv, No. 2; abstr. in The Journal, March 14, 1908, p. 922.

Clark, S. M. D.: Tuberculosis of the Female Genitals, *New Orleans Medical and Surgical Jour.*, July, 1908; abstr. in The Journal, Sept. 5, 1908, p. 868.

Stone, I. S.: Tuberculosis of the Female Generative Organs, The Journal, Oct. 31, 1908, p. 1539.

Simmonds, M.: Tuberculosis of the Female Genitalia, *Arch. f. Gynäk.*, lxxxviii, No. 1; abstr. in The Journal, May 22, 1909, p. 1725.

Blau, A.: Origin and Spread of Tuberculosis in the Female Genital Tract. (Ueber die Entstehung und Verbreitung der Tuberkulose im weiblichen Genitaltrakte.) Verlag von S. Karger, Karlstrasse 15, Berlin, Germany.

TRAUMATIC NEPHRITIS

To the Editor:—Please give references to literature on traumatic nephritis (Bright's disease).

A. J. Crowell, Charlotte, N. C.

Answer.—The following articles have appeared since 1904:

Oberndorfer, S.: Post-Traumatic Nephritis, *Münchener medizinische Wochenschrift*, l, No. 50; abstracted in The Journal, Jan. 16, 1904, p. 210.

Klippel and Chabrol, E.: Traumatic Nephritis with Unilateral Edema. *Presse Médicale*, April 14, 1909; abstracted in The Journal, May 29, 1909, p. 1799.

ACETONE TREATMENT OF INOPERABLE CANCER OF THE UTERUS

To the Editor:—Please give me reference to the acetone treatment of inoperable cancer of the uterus.

M. Iverson, Stoughton, Wis.

Answer.—The acetone treatment for inoperable cancer of the uterus is described by G. Gellhorn, St. Louis, in The Journal, April 27, 1907, p. 1400. Further reports by him have appeared in the *St. Louis Medical Review*, November, 1907, and in the *Münchener medizinische Wochenschrift*, Dec. 17, 1907.

The same treatment is referred to favorably by F. J. Taussig of St. Louis, in the *Interstate Medical Journal*, February, 1909.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arkansas: Regular, Little Rock, November 9. Sec., Dr. F. T. Murphy, Brinkley.
Connecticut: Homeopathic, New Haven, November 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.
Connecticut: Regular, City Hall, New Haven, November 9-10. Sec., Dr. Charles A. Tuttle, 196 York St.
Florida: Jacksonville, November 10-11. Sec., Dr. J. D. Fernandez.
Illinois: Coliseum Annex, Chicago, October 20-22. Sec., Dr. J. A. Egan, Springfield.
Louisiana: Homeopathic, New Orleans, November 1. Sec., Dr. Gayle Aiken, 1102 St. Charles Ave.
Maine: Portland, November 9-10. Sec., Dr. Frank W. Searle, 806 Congress St.
Massachusetts: State House, Boston, November 9-11. Sec., Dr. E. B. Harvey, Room 159, State House.
Nebraska: Senate Chamber, State House, Lincoln, November 10-11. Sec., Dr. E. Arthur Carr, 141 South Twelfth St.
New Jersey: State House, Trenton, October 19-20. Sec., Dr. E. L. B. Godfrey, Camden.
Nevada: Carson City, November 1. Sec., Dr. S. L. Lee.
Texas: Levy Bldg., Greenville, November 9-11. Sec., Dr. M. E. Daniel, Honey Grove.
West Virginia: Chancellor Hotel, Parkersburg, November 9-11. Sec., Dr. H. A. Barbee, Point Pleasant.
Wyoming: Laramie, October 20-22. Sec., Dr. S. B. Miller.

Better Conditions at the University of Vermont

The University of Vermont College of Medicine, Burlington; hereafter will be entirely under the control and management of the trustees of the university, according to an editorial in the *Vermont Medical Monthly* for August. There has been a partial control by the university for several years, but all financial obligations had to be met by the faculty of medicine. At the last meeting of the Vermont legislature an annual appropriation of $10,000 was voted to the university in aid of medical education, which made it possible for the university to assume the financial responsibility of the department, collecting all fees and paying all bills, including salaries. The College of Medicine of the University of Vermont well deserved this additional assistance and it means better things for medical education in that state. The medical faculty has voted to increase the preliminary requirement to one year of college work, including courses in physics, chemistry and biology, the increase to become effective in 1912.

Damages Awarded Against a Medical College

It is reported in the *Texas State Journal of Medicine* that Dr. R. L. Charlton was lately awarded judgment in the district court of Dallas county, Texas, for $1,000 damages against the College of Physicians and Surgeons, formerly the Bell Medical College, but in attempting to enforce the order the sheriff could find no property out of which to obtain the money. This information is interesting since it confirms the Texas State Board of Medical Examiners in their withdrawal of recognition from this medical college on the ground that it was not properly equipped to furnish medical education.

University of Southern California Has a New Medical Department

When the former College of Medicine of the University of Southern California became the Los Angeles Medical Department of the University of California the former university was left without a medical department. Recently, however, the College of Physicians and Surgeons of Los Angeles was taken over and made an integral part of the University of Southern California. It is stated that an enlargement of the medical course will follow the merger.

Texas June Report

Dr. M. E. Daniel, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Cleburne, June 22-24, 1909. The number of subjects examined in was 12; percentage required to pass, 75. The total number examined was 175, of whom 150 passed, 19 failed, and 6 withdrew. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, San Francisco	(1902)	80.6
Birmingham Medical College	(1908)	77
University of Arkansas	(1901)	83.9
Arkansas Industrial University	(1891)	75
Georgia College of Eclectic Medicine and Surgery	(1889) 75; (1890) 76.5; (1902) 75.	
Atlanta College of Physicians and Surgeons	(1909)	83.4, 85.6
Jenner Medical College	(1899)	76.5
Rush Medical College	(1895)	75
College of Medicine and Surgery, Chicago	(1909)	80.6
College of Physicians and Surgeons, Chicago	(1903)	91.3
Physio-Medical College of Indiana	(1906)	84.5
University of Louisville	(1879) 75; (1896) 75; (1907) 84.7; (1909) 80-1, 82.5.	
Louisville Medical College	(1906)	86.3
Tulane University of Louisiana	(1893) 80.5; (1891) 75; (1901) 80.5; (1905) 86.6; (1909) 79.7, 80.8, 80.8, 81, 82.6, 82.8, 83.5, 84.2, 84.5, 85.2, 88.1, 88.4, 91.3, 92.5.	
Johns Hopkins University	(1909)	92.5
University of Maryland	(1905)	83.2
Baltimore University	(1902)	81.7
Baltimore Medical College	(1909)	80.1, 86.9
College of Physicians and Surgeons, Baltimore	(1891)	75
Boston University	(1902)	76.3
Kansas City Medical College	(1897)	75
Missouri Medical College	(1879)	76.9
Barnes Medical College	(1909)	76.4
University Medical College, Kansas City	(1904)	82.8
St. Louis College of Physicians and Surgeons,	(1883) 75; (1889) 77.9; (1909) 77.1.	
Eclectic Medical College of New York	(1879)	75
Jefferson Medical College	(1907)	86.2
Memphis Hospital Medical College	(1901) 80.2; (1903) 77.2; (1904) 82; (1908) 79; 1909) 75, 75.2, 80.3, 85.9.	
Vanderbilt University	(1909)	78.3, 80.5, 81.3, 81.4, 84.2, 85, 85.3
University of Nashville	(1908) 78.9; (1909)	83.3, 87.8
University of Tennessee	(1909)	81.5, 81.9, 82
Meharry Medical College	(1909)	75, 77.2, 80.4
College of Physicians and Surgeons, Memphis	(1909)	88.2
University of the South	(1908)	83.2
Chattanooga Medical College	(1905)	76.4
Southwestern University Medical College, Dallas	(1908) 81.6, 82.3; (1909) 79.1, 80.4, 81.7, 84.7, 86.3.	
Baylor University	(1909)	76.9, 78.2, 79.9, 81.6, 81.7, 82.5, 82.5, 84.3, 84.3, 87.4, 87.8, 89.3, 89.9.
Fort Worth University	(1909)	75.4, 78.3, 78.3, 80.6, 82.8, 83.4, 86.4, 87.5, 89.6, 91.1, 95.9.
University of Texas	(1908) 84, 93.4; (1909) 81, 81.7, 84.2, 84.3, 84.4, 84.7, 85, 85.5, 85.5, 85.7, 86, 86.6, 86.7, 87.1, 87.7, 87.8, 88, 88.1, 88.1, 88.2, 88.9, 89, 89.3, 89.6, 89.7, 90, 90.1, 90.1, 91.2, 91.3, 92.7, 93.3, 94.	
University of Vermont	(1895)	75
National Medical College, Mexico City	(1901)	85.4
University of Heidelberg, Germany	(1904)	95

FAILED

College	Year Grad.	Total No. Exam'd.
Illinois Medical College	(1903)	1
Tulane University of Louisiana	(1909)	1
St. Louis College of Phys. and Surg.	(1908) 2; (1909)	3
North Carolina Medical College	(1909)	1
Memphis Hospital Medical College	(1901) 3; (1909)	4
University of Nashville	(1904) (1909)	2
Vanderbilt University	(1909)	1
Chattanoga Medical College	(1901)	1
Meharry Medical College	(1908) 2; (1909)	3
Southwestern University Medical College, Dallas	(1909)	1
Dallas Medical College	(1903)	1

Maryland June Report

Dr. J. McP. Scott, secretary of the Maryland State Board of Medical Examiners, reports the written examination held at Baltimore, June 22-25, 1909. The number of subjects examined in was 9; percentage required to pass, 75. The total number of candidates examined was 121, of whom 100 passed and 21 failed. Twenty-two candidates were licensed through reciprocity and 5 under exemption clauses and by special examination. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University	(1908) 80; (1909)	80, 81, 83
Howard University	(1908)* (1908) 81; (1909)	77, 81
College of Physicians and Surgeons, Baltimore	(1907)* (1908) 81; (1909) 79, 83, 85, 86. 86, 87, 88, 88.	
Johns Hopkins University	(1904) 83, 87; (1905) 88; (1906) 90; (1908) 86, 88; (1909) 77, 78, 79, 82, 83, 84, 84, 84, 89.	
Baltimore Medical College	(1906)* (1909) 75, 75, 75, 77, 78, 80, 81, 81, 85, 87.	
Maryland Medical College	(1905)* (1908)* (1909)	75, 79, 80, 82, 83
University of Maryland	(1907)* (1907) 80; (2, 1908)* (1909) 75, 75, 76, 76, 77, 77, 78, 79, 80, 80, 81, 82, 82. 83, 84, 84, 84, 85, 85, 87, 87, 87, 88, 88, 89, 89, 91.	
Baltimore University	(1907)*	
Woman's Medical College of Baltimore	(1908) 85; (1909)	79
Leonard School of Medicine	(1909)	76
Jefferson Medical College	(1908) 76; (1909)	83
University of Pennsylvania	(1908) 82; (1909) 76, 81, 81, 81, 82, 85, 88, 88, 89.	
Medico-Chirurgical College, Philadelphia	(1908)	80
University of the South	(1908)	75

FAILED

College	Year Grad.	Per Cent.
University of Maryland	(1908)* (1909)	69, 70
Woman's Medical College of Baltimore	(2, 1908)* (1909)	74
Baltimore Medical College	(2, 1906)* (1909)	66, 68
Maryland Medical College	(1906)* (1907)* (1908)* (1908) 67; (1909) 63, 69, 72.	
University of Pennsylvania	(1909)	73
University of the South	(1904)* (1908*	
University College of Medicine, Richmond	(1909)	70

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
	(1907)	S. Carolina
ty....(1900) Ohio;	(1903)	Virginia
	(1897)	Illinois
(1891)	(1893)	Dist. Colum.
Louisville	(1898)	Ohio
Univer (1906) Virginia;	(1904)	Dist.Colum.
Baltim (1903) Indiana;	(1907)	W. Virginia
Johns (1906) Virginia;	(1908)	Michigan
College eons, Baltimore	(1897)	Missouri
Maryla) (1908) Georgia;	(1907)	W. Virginia
Baltim	(1897)	Wisconsin
Tulane University of Louisiana	(1901)	Texas
Woman's Medical College of Pennsylvania	(1904)	Missouri
Medical College of the State of South Carolina	(1902)	S. Carolina
Medical College of Virginia, Richmond	(1898)	W. Virginia

LICENSED UNDER EXEMPTION CLAUSE AND BY SPECIAL EXAMINATION

College	Year of Grad.
College of Physicians and Surgeons, Baltimore	(1882) (1888)
University of Maryland	(1888)
University of Budapest, Hungary	(1869)
University of Palermo, Italy	(1908)

* Re-examined.

Virginia June Report

Dr. R. S. Martin, secretary of the Medical Examining Board of Virginia, reports the written and oral examination held at Richmond, June 22-25, 1909. The number of subjects examined in was 9; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 132, of whom 112 passed and 20 failed. Four reciprocal licenses were issued. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University	(1909)* (1909)	81, 83, 85
Georgetown University	(1907)*	
George Washington University	(1894)* 1908)	80
University of Louisville	(1906)	77
Kentucky School of Medicine	(1907)*	
Tulane University of Louisiana	(1908) 79; (1909)	78
Baltimore Medical College	(1907) 75, 76; (1909) 77,	79
Johns Hopkins University	(1909)	82
University of Maryland	(1903) 75; (1909)	77, 79, 83, 85
College of Physicians and Surgeons, Baltimore	(1882)* (1908) 79; (1909) 82.	
Maryland Medical College	(1902)* (1905) 77; (1909)	75, 82, 82
New York University Medical College	(1891)*	
Leonard School of Medicine	(1906) 75; (1908) 75; (1909) 75, 75, 80, 80.	
University of Pennsylvania	(1907)* (1909)	82
Woman's Medical College of Pennsylvania	(1907)	82
Jefferson Medical College	(1908)	75
Medical College of the State of South Carolina	(1901)*	
University of the South	(1908)	75
University of Nashville	(1909)	77
University of Virginia,	(1907) 78; (1908) 76, 80; (1909)* (1909) 77, 78, 78, 85.	
University College of Medicine, Richmond	(1907) 79; (1909) 76, 76, 76, 77, 78, 79, 79, 79, 80, 80, 80, 80, 80, 80, 80, 80, 81, 82, 82, 82, 82, 83, 83, 83, 84, 84, 84, 85, 85, 87, 90.	
Medical College of Virginia	(1907) 83; (1908) 81; (1909) 75, 75, 76, 77, 77, 77, 77, 77, 78, 78, 78, 79, 79, 79, 79, 80, 81, 81, 82, 82, 82, 83, 84, 84, 84, 85, 87.	

FAILED

College	Year Grad.	Per Cent.
Kentucky School of Medicine	(1887)* (1908) 71,	73
Maryland Medical College	(1904)* (1908) 73; (1909) 72, 72,	72
University of Maryland	(1909)	71
Baltimore Medical College	(1909)	72
College of Physicians and Surgeons, Boston	(1907)	72
Leonard School of Medicine	(1906) 68; (1908)	71
University of the South	(1907) 69; (1909)	72
Chattanooga Medical College	(1905) 46; (1907)	70
Memphis Hospital Medical College	(1909)	66
Medical College of Virginia, Richmond	(1907)	72
University College of Medicine, Richmond	(1909)	73

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Maryland Medical College (1904) West Virginia;	(1904)	Maryland
University of Maryland	(1906)	Maryland
Medical College of Virginia, Richmond	(1906)	W. Virginia

* Took oral examination.

Wyoming June Report

Dr. S. B. Miller, secretary of the Wyoming State Board of Medical Examiners, reports the written examination held at Laramie, June 23-25, 1909. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 6, all of whom passed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine (1908) 79.5;	(1909)	90.2
Tulane University of Louisiana	(1887)	79
Beaumont Hospital Medical College	(1893)	75.1
Nebraska College of Medicine	(1909)	78.6
Creighton Medical College	(1909)	81.8

New Mexico July Report

Dr. J. A. Massie, secretary of the New Mexico Board of Medical Examiners, reports the written examination held at Santa Fe, July 12, 1909. The number of subjects examined in was 12; total number of questions asked, 100; percentage required to pass, 75. Only one candidate, a graduate of the University of the South, 1899, was examined, and he passed with a grade of 84.4 per cent. Twenty-one candidates were licensed on presentation of satisfactory credentials. The following colleges were represented:

LICENSED ON CREDENTIALS

College.	Year of Grad.
Medical School	(1898)
d Surgeons, Chicago	(1902)
Chicago	(1889)
	(1899)
	(1896)
	(1903)
e	(1871)
Kentucky School of Medicine	(1889)
Hospital College of Medicine, Louisville	(1902)
University of Louisville (1888)	(1904)
University of Maryland	(1896)
Barnes Medical College (1897)	(1904)
University Medical College, Kansas City	(1908)
Missouri Medical College	(1898)
Washington University, St. Louis	(1905)
Ohio Medical University, Columbus (1880)	(1896)
Medical College of Ohio	(1892)
University College of Medicine, Richmond	(1898)

Arkansas July Report

Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, July 13, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 85, of whom 39 passed, including 17 non-graduates, and 46 failed, including 36 non-graduates. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1893)	86.4
College of Physicians and Surgeons, Little Rock	(1909)	81
University of Arkansas	(1909)	76
n	(1909)	79.2
	(1889)	83.8
geons, Keokuk	(1899)	78.7
Medicine	(1897)	90.2
	(1909)	78.2
(1890) 88.8; (1908) 86.6;	(1909)	85
	(1909)	82.8
	(1908)	83.2
(1908) 75;	(1909)	78, 75.4
llege	(1909)	81.4
University of Tennessee	(1909)	80.6, 84, 86.6
University of Nashville	(1909)	88.1
University of Toronto, Ontario	(1890)	91.4

FAILED

College	Year Grad.	Per Cent.
	(1909)	62.1, 68.2, 69.1, 70.4
ia	(1908)	53.8
icians and Surgeons	(1908)	66.6
essee	(1909)	60.8
(1908) 63.6;	(1909)	63, 67.6

Vermont July Report

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the written examination held at Burlington, July 13-15, 1909. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 28, all of whom passed. Three were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George	(1906)	80.3
Bennett	(1909)	81.6
Baltimor	(1906)	82.5
College Boston	(1899)	80
	(1900)	86.6
(1879) 75;	(1906)	84.1
pital Medical College	(1905)	96.6
) 75; (1906) 78.2; (1907) 82;	(1909)	
		82.9, 82.9, 85.3, 87.1, 87.8, 88.1, 89.1,
McGill University, Montreal (1907) 92.6;	(1908)	89.9

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Tufts College Medical School	(1907)	New Hamp.
Albany Medical College	(1896)	New York
Columbia University, Coll. of P. & S.	(1883)	New Jersey

Massachusetts July Report

Dr. E. B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the written examination held at Boston, July 13-15, 1909. Practical laboratory tests were also required. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 109, of whom 75 passed and 34 failed, including 7 non-graduates. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University (1884) 85;	(1887)	75
Georgetown University	(1908)	75.8
Yale University (1907) 75.9, 77.2;	(1909)	75
Medical School of Maine (1908) 75.5, 78.2;	(1909)	75.5, 81
Coll. of P. & S., Baltimore (1907) 82.5;	(1909)	75.6, 78.5
Baltimore Medical College (1907) 75;	(1909)	77.5
Johns Hopkins University	(1897)	85
Boston University (1908) 79.3; (1909) 75.2, 75.5, 75.8, 76.9, 77.2, 77.6, 77.6, 80.4.		
Tufts College Medical School (1902) 82.8; (1908) 75.2; (1909) 75, 75, 75, 75, 75.2, 75.3, 75.5, 75.5, 75.7, 75.7, 76.3, 77.2, 77.8, 78.2, 78.5, 78.4, 78.6.		
Harvard Medical School (1907) 81.7; (1908) 75.7, 81.2; (1909) 75, 75.5, 77, 79.4, 79.5, 79.7, 79.8, 80.2, 80.5, 81.1, 81.2, 82.2, 84.2.		
College of Physicians and Surgeons, Boston	(1909)	77.4
ll. of P. & S. (1902) 83;	(1905)	76.2
	(1907)	77.5
	(1909)	79.2
Hospital Medical College	(1908)	78.4
Woman's Medical College of Pennsylvania	(1892)	75
Jefferson Medical College	(1881)	85
University of Vermont (1891) 75;	(1899)	77.3
Medical College of Virginia, Richmond	(1908)	78.8
McGill University, Montreal (1900) 77.2;	(1908)	83.3
University of Toronto, Ontario	(1908)	77
University of Naples, Italy	(1900)	75

FAILED

College	Year Grad.	Per Cent.
Medical College of Georgia	(1906)	43.9
Baltimore Medical College (1905) 66.2; (1908) 69.2, 70.2, 70.4, 70.7; (1909) 68.2.		
ollege	(1909)	66.7
l School (1908) 63.7, 69.7;	(1909)	67, 69.5,
and Surgeons, Boston (1908) 54.2;	(1909)	
Harvard Medical School	(1909)	61.8
Dartmouth Medical School	(1899)	61
Albany Medical College	(1898)	64.8
Columbia University, College of P. & S.	(1907)	70.4
University College of Medicine, Richmond	(1906)	61.8
Laval University, Quebec (1905) 52.5;	(1909)	66.5, 70.8
Medico-Chirurgical College, Lisbon, Portugal	(1902)	39.2

The Public Service

Medical Department of the Army

Changes for the week ended Oct. 9, 1909:

Duncan, W. A., capt., granted an extension of 10 days to his leave of absence.

DeWitt, Wallace, capt., ordered for examination at Washington, D. C., instead of San Francisco, Cal.

Church, J. R., major, granted leave of absence for 1 month.

Raymond, H. I., lieut col., granted an extension of 1 month to his leave of absence.

Smart, W. M., capt., granted leave of absence for 4 months, when relieved from duty in the Philippines Division.

Grubbs, R. B., capt., granted leave of absence for 1 month.

Walkup, J. O., M. R. C., ordered to active duty; will proceed to Fort Snelling, Minn. for duty.

Holland, J. H., M. R. C., ordered to active duty; will proceed to Fort Barrancas, Fla., for duty.

Sanford, J. L., M. R. C., relieved at Fort Barrancas, Fla., and ordered to Fort Caswell, N. C., *for duty.*

Enders, W. J., M. R. C., relieved at Fort McKinley, Me., and ordered to Fort Greble, R. I., for duty.

Gibson, P. W., M. R. C., ordered to active duty; will proceed to Fort Yellowstone, Wyo., for duty.

Pargon, J. A., M. R. C., relieved at Fort Yellowstone, Wyo., and ordered to proceed to his home.

Stallman, G. P., M. R. C., granted an extension of 15 days to his leave of absence.

Hereford, J. R., M. R. C., granted leave of absence for 1 month and 7 days.

Foley, T. M., M. R. C., granted leave of absence for 14 days.

Penrose, T. W., M. R. C., ordered to active duty; will proceed to Plattsburg Barracks, N. Y., for duty.

Medical Corps of the Navy

Changes for the week ended Oct. 9, 1909:

Tolfree, H. M., P. A. surgeon, ordered to the Naval Magazine, Iona Island, N. Y.

Allen, A. H., asst.-surgeon, ordered to the Naval Recruiting Station, Pittsburg, Pa.

Oursler, J. T., pharmacist, discharged from treatment at the Army and Navy General Hospital, Hot Springs, Ark., and ordered to the Naval Academy.

Smith, H. W., P. A. surgeon, detached from the Navy Yard, Boston, Mass., and ordered to duty in the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

Eytinge, E. O. J., P. A. surgeon, detached from the *Wolverine*, and ordered to the Naval Hospital, Norfolk, Va.

Reed, T. W., asst.-surgeon, ordered to the *Wolverine*.

Shipp, E. M., surgeon, detached from the Naval Recruiting Station, New York, N. Y., and ordered to duty at the Naval Hospital, Philadelphia, Pa.

Raison, T. W., asst.-surgeon, ordered to duty at the Naval Hospital, Navy Yard, N. Y.

Public Health and Marine-Hospital Service

Changes for the seven days ended Oct. 6, 1909:

Banks, Charles E., surgeon, granted 1 day's leave of absence, Oct. 3, 1909.

Rosenau, M. J., surgeon, granted 2 days' leave of absence from Sept. 29, 1909, without pay.

Rosenau, M. J., surgeon, relieved as Director, Hygienic Laboratory, to take effect Oct. 1, 1909.

Anderson, John F., P. A. surgeon, detailed as Director Hygienic Laboratory, to take effect Oct. 1, 1909.

Billings, W. C., P. A. surgeon, granted 5 days' leave of absence from Oct. 6, 1909.

Holt, J. M., P. A. surgeon, granted 6 days' leave of absence from Oct. 4, 1909.

Boggess, J. S., P. A. surgeon, leave of absence for 7 days from Sept. 24, 1909, amended to read 6 days from Sept. 24, 1909.

Sweet, E. A., P. A. surgeon, leave of absence granted Sept. 9, 1909, for 21 days, amended to read 22 days from Sept. 9, 1909.

Guthrie, M. C., P. A. surgeon, granted 30 days' leave of absence from Oct. 10, 1909.

Wood, C. E., asst.-surgeon, granted 16 days' leave of absence from Oct. 5, 1909.

Lyon, R. H., asst.-surgeon, granted 2 days' leave of absence in September, 1909, under Paragraph 191, Service Regulations.

Altree, G. H., acting asst.-surgeon, granted 30 days' leave of absence from Oct. 2, 1909, without pay.

Cleborne, A. B., acting asst.-surgeon, granted 7 days' leave of absence from Oct. 2, 1909, under Paragraph 210, Service Regulations.

Deerhake, William A., acting asst.-surgeon, granted 1 day's leave of absence in September, 1909, under Paragraph 210, Service Regulations.

Gleason, C. M., acting asst.-surgeon, granted 15 days' leave of absence from Oct. 1, 1909.

Gregory, G. A., acting asst.-surgeon, granted 10 days' leave of absence from Oct. 1, 1909.

Hume, Lea, acting asst.-surgeon, granted 10 days leave of absence from Sept. 30, 1909.

Hunter, W. R., acting asst.-surgeon, granted 14 days' leave of absence from Oct. 5, 1909.

MacCaffry, W. B., acting asst.-surgeon, granted 2 days' leave of absence in September, 1909, under Paragraph 210, Service Regulations.

Onuf, B., acting asst.-surgeon, granted 2 days' leave of absence from Sept. 21, 1909, under Paragraph 210, Service Regulations.

Sinclair, A. N., acting asst.-surgeon, granted 15 days' leave of absence from Sept. 5, 1909.

Walker, R. T., acting asst.-surgeon, granted 9 days' leave of absence from Oct. 18, 1909.

Wetmore, W. O., acting asst.-surgeon, granted 1 day's leave of absence, Sept. 20, 1909, under Paragraph 210, Service Regulations.

Health Reports

The following have been reported to the Public Health and Marine-Hospital Service, during the week ended Oct. 8, 1909:

SMALLPOX—UNITED STATES

District of Columbia: Washington, Sept. 18-25, 2 cases.
Georgia: Macon, Sept. 15-21, 1 case.
Illinois, general, Aug. 1-31, 40 cases; Danville, Sept. 18-25, 1 case; Peoria, Aug. 1-31, 9 cases.
North Dakota, general, July 1-31, 27 cases.
Texas, general, July 1-31, 92 cases; San Antonio, 2 cases.
Utah, general, Aug. 1-31, 101 cases; Salt Lake City, 17 cases.
Washington: Seattle, July 1-31, 2 cases.

SMALLPOX—FOREIGN

Chile: Valparaiso, Aug. 21-28, present.
China: Hankow, Aug. 18-25, 1 case.
Egypt: Cairo, Aug. 26-Sept. 2, 1 case, 1 death.
France: Paris, Sept. 4-11, 1 case.
India: Bombay, Aug. 18-31, 6 deaths; Madras, Aug. 14-20, 1 death.
Italy, general, Sept. 5-12, 7 cases, 5 deaths.
Java: Batavia, Aug. 14-21, 2 cases.
Mexico: Monterey, Sept. 12-19, 2 deaths.
Persia: Mazanderan, July 1-31, epidemic.
Portugal: Lisbon, Sept. 4-11, 1 case.
Russia: Moscow, Aug. 28-Sept. 4, 7 cases, 2 deaths; Riga, Sept. 4-11, 2 cases; St. Petersburg, Aug. 21-Sept. 4, 25 cases, 8 deaths.
Spain: Barcelona: Aug. 28-Sept. 11, 5 deaths; Valencia, 1 case; Vigo, Sept. 4-11, 2 deaths.

YELLOW FEVER

Brazil: Para, Aug. 28-Sept. 7, 9 cases, 6 deaths.

CHOLERA—INSULAR

Philippine Islands: Manila, Aug. 14-28, 3 cases, 2 deaths; Provinces, 342 cases, 246 deaths.

CHOLERA—FOREIGN

China: Amoy, Aug. 14-28, 39 deaths; Hankow, Aug. 18-25, 2 deaths.
India: Bombay, Aug. 18-31, 92 deaths; Calcutta, Aug. 7-21, 11 deaths; Madras, Aug. 14-20, 1 death; Rangoon, 6 deaths.
Japan: Karatsu, Sept. 1, 2 cases, on steamship Tain Maru; Mitajiri Aug. 22, 21 cases.
Korea: Sept. 2, epidemic in the northern part.
Manchuria: Liaoyang, Aug. 10-14, 1 death; Mukden, 1 death; Tashichiao, 1 death; Yinkou, 6 cases, 1 death.
Russia. general, Sept. 3-10, 716 cases, 257 deaths, Sept. 11-17, 946 cases, 251 deaths; St. Petersburg, Sept. 3-10, 167 cases, 45 deaths, Sept. 11-17, 246 cases, 87 deaths.

PLAGUE

Chile: Iquique, Aug. 18-Sept. 5, 6 cases in lazaretto.
China: Amoy, Aug. 14-28, 105 deaths; Hongkong, Aug. 14-21, 1 case, 1 death.
India, general, Aug. 14-21, 1,821 cases, 1,376 deaths; Bombay, Aug. 18-31, 64 deaths; Calcutta, Aug. 7-21, 31 deaths; Rangoon, Aug. 14-21, 28 deaths.
Japan: Kobe, Aug. 29-Sept. 4, 5 cases, 2 deaths.
Peru, general, Aug. 28-Sept. 4, 13 cases, 9 deaths.
Zanzibar: Zanzibar, July 23-24, 2 deaths.

Marriages

George A. Downs, M.D., to Mrs. Ella Thomas Seiling, both of Spokane, Wash., September 18.

Horace L. Husted, M.D., Muscatine, Iowa, to Miss Mabel Merritt, of Iowa City, September 22.

Herman Winford Bundy, M.D., Sadorus, Ill., to Miss Edith Stone of Tolono, Ill., September 29.

William James Swift, M.D., Chicago, to Miss Florence Josephine Lang, of Berlin, Ont., October 6.

Albert V. N. Hennessy, M.D., to Miss Marie Cornelius, both of Council Bluffs, Iowa, September 29.

Edward E. Nathan, M.D., Chicago, to Miss Julia Goldberg, of Deadwood, S. D., in Chicago, October 1.

Alfred Nicholas Murray, M.D., to Miss Edna Auretta Schmidt, both of Chicago, September 30.

Louis Edmunds Guy, M.D., to Miss Anna Thea Louise von N. Rosenegk, at Richmond, Va., September 28.

Archibald G. Thomson, M.D., to Mrs. Mary L. W. Wanamaker, both of Philadelphia, September 29.

Lansing Y. Lippincott, M.D., Metuchen, N. J., to Miss Louise W. Cragin, of New York City, September 22.

Sims Seward Hindman, M.D., Glen Olden, Pa., to Miss Anna Maryland Larimore, of Seaford, Del., October 2.

Rogers M. McCowan, M.D., Knoxville, Tenn., to Miss Nellie Tittsworth, of Jefferson City, Tenn., October 5.

Edgar Hall Hand, M.D., to Miss Nannie Williamson, both of Pineville, N. C., in Charlotte, N. C., September 22.

T. Flournoy Worthington, M.D., Myrtle Grove, La., to Miss Celeste Scudder, of Vicksburg, Miss., September 22.

Edgar Clyde Jones, Medical Reserve Corps, U. S. Army, to Miss Anne Katherine Laughlin, of Silver City, N. M., September 16.

Henry Arthur Cassebeer, Jr., M.D., to Mrs. Eleanor Genevieve Paeake, both of New York City, in London, England, September 29.

Deaths

Harry Dorr Niles, M.D. Medical College of Ohio, Cincinnati, 1880; a member of the American Medical Association; in 1907, president of the Utah Medical Society; formerly president of the Western Surgical and Gynecological and Rocky Mountain Inter-State Medical associations; chief-of-staff of the Holy Cross Hospital, Salt Lake City; Utah; an honorary member of the state associations of Colorado and Idaho; *died at his home in Salt Lake City, September 28,* from cerebral hemorrhage, aged 53. The Salt Lake Medical Society, Salt Lake County Medical Society, and medical staff of the Holy Cross Hospital, at special meetings, adopted resolutions of regret and condolence.

George Edward Post, M.D. New York University, New York City, 1850; dean of the faculty of the Syrian Protestant College, Beyrout, Syria, Asia Minor; professor of surgery in the Syrian Protestant Hospital; and surgeon of the Johanniret Hospital, Beyrout; whose work in the medical missionary field won for him the decoration of the Osmanieh from the Sultan of Turkey, and of the Red Eagle and Knights of Jerusalem from Germany; author of text-books on botany, zoology, physiology, surgery, and materia medica, primarily for the use of his students; died in Beyrout, September 30, aged 70.

Christopher James Cleborne, M.D. University of Pennsylvania, Philadelphia, 1860; rear admiral U. S. Navy, retired; who entered the Navy in May, 1861, served through the Civil War, and during the Spanish-American War was in command of the U. S. Naval Hospital, Norfolk, Va.; served on sea duty for ten years and eight months, and on shore duty for twenty-five years and five months; was retired November 10, 1899 for incapacity resulting from incident of service; died at his home in Washington, D. C., October 2, aged 71.

Pasquale DeCunto, M.D. University of Naples, Italy, 1898; a member of the Colorado State Medical Society; a prominent Italian physician of Denver; who on account of his work in behalf of his fellow-countrymen was made a chevalier of the Order of the Crown of Italy by the King; died at the home of his mother-in-law in Brooklyn, N. Y., October 6, from bronchitis, aged 43.

John Joseph Quirk, M.D. Rush Medical College, Chicago, 1888; a member of the American Medical Association; adjunct professor of skin and venereal diseases in the College of Physicians and Surgeons, Chicago, and the Chicago Clinical School, secretary of the local board of U. S. Pension Examining Surgeons; died at his home in Chicago, October 4, aged 44.

John Newton Gregg, M.D. University of Michigan, Ann Arbor, 1862; of Whittaker, Mich.; professor of anatomy in his alma mater from 1862 to 1864; surgeon of the Twenty-fifth Volunteer Infantry during the Civil War; died at the home of his nephew in Fond du Lac, Wis., September 28, from heart disease, aged 73.

Daniel A. Smith, M.D. Eclectic Medical Institute, Cincinnati, 1855; surgeon of the Twenty-second Georgia Infantry, C. S. A., during the Civil War; mayor of Butler, Ga., and afterward state senator; later mayor of Anthony, Fla., and a member of the legislature; died recently at his home in Anthony, aged 79.

Henry A. Eidson, M.D. Rush Medical College, Chicago, 1880; a member of the Illinois State Medical Society; and of the local board of U. S. pension examining surgeons; died suddenly, while making a professional call at his home in Willow Hill, October 7, from hemorrhage, aged 62.

Charles Horace Evans, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1869; of Chicago; from 1897 to 1904, lecturer on materia medica in Hahnemann Medical College; died in Union Hospital, Chicago, October 4, after an operation for carcinoma of the stomach, aged 62.

Harold Verne Noyes, M.D. Medical School of Maine, Brunswick, 1881; a member of the York County (Maine) Medical Society; for many years superintendent of schools of Berwick; died at his home in Berwick, January 25, from cirrhosis of the liver, aged 50.

Charles Alonzo Cordiner, M.D. Baltimore (Md.) Medical College, 1901; of Portland, Ore.; formerly of Astoria, Ore., and secretary of the Clatsop County Medical Society; died in the Good Samaritan Hospital, Portland, September 25, from spinal meningitis, aged 29.

James Fulton, M.D. Jefferson Medical College, Philadelphia, 1859; a member of the Medical Society of the State of Pennsylvania; one of the oldest practitioners of Chester county; died at his home in New London, September 28, from angina pectoris, aged 77.

Edward Pierson Nicholson, M.D. University of Nashville, Tenn., 1861; a member of the Medical Association of the State of Alabama; died at his home in Valley Head, September 29, from the effects of aconite, taken by mistake for cough syrup, aged 74.

Ludwig Kohn, M.D. University of Vienna, Austria, 1887; a member of the Medical Society of the State of New York; died at his home in New York City, October 4, from the effects of carbolic acid, taken in mistake for a nerve tonic, aged 45.

Charles Parsons Beaman, M.D. New York Homeopathic Medical College, New York City, 1882; a member of the American Medical Association; physician to Cornell University Athletic Association, Ithaca, N. Y.; died October 6, aged 49.

Junius Kincaide Battle, M.D. Tulane University, New Orleans, 1883; a member of the Medical Association of the State of Alabama; city physician of Eufala, Ala.; died at his home in that city, September 28, from cerebral hemorrhage, aged 48.

Otto Frankenberg, M.D. Starling Medical College, Columbus, Ohio, 1870; for twenty years a member of the faculty of his alma mater; died at his home in Grand View, Columbus, September 29, from disease of the bladder, aged 63.

Julian Branch, M.D. Detroit (Mich.) College of Medicine, 1905; of Otisville, Mich.; a member of the Michigan State Medical Society; died in Harper Hospital, Detroit, after an operation for appendicitis, September 30, aged 32.

Charles Frederick Ferguson, M.D. Queen's University, Kingston, Ont., 1859; formerly member of Parliament for Leeds and Grenville, Ont.; died suddenly at his home in Kemptville, Ont., October 1, aged 76.

Riley S. Lycan, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1880; a member of the Illinois State Medical Society; died at his home in Paris, October 2, from pulmonary tuberculosis, aged 54.

Russell Clute, M.D. Albany (N. Y.) Medical College, 1903; of Maplewood, N. J.; physician to Christ's Hospital, Jersey City; died at the home of his sister in Amsterdam, N. Y., September 24, aged 33.

William Alexander Brooks, M.D. Jefferson Medical College, Philadelphia, 1850; a retired practitioner of San Antonio, Texas; died at a local sanitarium, September 18, from senile debility, aged 84.

Ernest Clark Gwinn, M.D. College of Physicians and Surgeons, Chicago, 1906; formerly of Sadorus and Paris, Ill.; died in Monrovia, Cal., from pulmonary tuberculosis, September 9, aged 28.

Joseph S. Biggart (license, Tenn., 1889); an eclectic practitioner of Carroll county, Tenn.; died at his home near Carter's Chapel, recently, and was buried September 26, aged 63.

Isaac M. Mulholland (license, Ohio, years of practice, 1896); for sixty-two years an eclectic practitioner; died at his home in Toledo, June 21, from edema of the lungs, aged 85.

H. F. McCoy, M.D. Columbus (Ohio) Medical College, 1879; formerly of Chauncey, Ohio; died at his home in Harper, Kan., from disease of the kidney recently, and was buried October 3.

William Turner Nolen, M.D. Hospital College of Medicine, Louisville, Ky., 1890; a member of the New Mexico Medical Society; died at Los Tanos, July 14, from tetanus, aged 40.

William A. Childress, M.D. Medical College of Georgia, Augusta, 1858; a Confederate veteran; and a pioneer citizen of Atlanta, Ga.; died at his home, October 1, aged 73.

James Lawson Davis, M.D. University of Alabama, Mobile, 1874; postmaster of Lafayette, Ala.; died at his home, September 12, from strangulated ventral hernia, aged 63.

Jabez Parkhurst Bidwell, M.D. Albany (N. Y.) Medical College, 1860; died at his home in Morrisonville, N. Y., March 17, 1908, after an illness of twelve years, aged 71.

Edmond B. Towne (license, practitioner, Iowa, 1887); since 1876 a practitioner of Coon Rapids, Iowa; died at the home of his son in that city, September 9, aged 80.

John Campbell Buell, M.D. University of Michigan, Homeopathic College, Ann Arbor, 1892; died at his home in Rives Junction, Mich., September 25, aged 39.

Albert Thibodeau, M.D. Laval University, Montreal, 1881; of Escanaba, Mich.; died in the Delta County Hospital, February 13, from carcinoma, aged 49.

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Isaac W. Lewis, M.D. Castleton (Vt.) Medical College, 1848; died at his home in Apalachian, N. Y., September 19, aged 88.

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Joseph Francis Xavier Poitras (license, Mass.); died at his home in Brockton, Mass., October 3.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Dr. McCormack's Meetings Resumed

The public education work carried on by Dr. McCormack was inaugurated this fall with a number of meetings in Kentucky, followed by an address at Marion, Ind., on September 23. The Marion *News-Tribune* says: "The auditorium of the Presbyterian Church . . . was crowded last night with people who appreciated the privilege of hearing Dr. J. N. Mc-

Reed, T. W., asst.-surgeon, ordered to the *Wolverine*.

Shipp, E. M., surgeon, detached from the Naval Recruiting Station, New York, N. Y., and ordered to duty at the Naval Hospital, Philadelphia, Pa.

Raison, T. W., asst.-surgeon, ordered to duty at the Naval Hospital, Navy Yard, N. Y.

Public Health and Marine-Hospital Service

Changes for the seven days ended Oct. 6, 1909:

Banks, Charles E., surgeon, granted 1 day's leave of absence, Oct. 3, 1909.

Rosenau, M. J., surgeon, granted 2 days' leave of absence from Sept. 29, 1909, without pay.

Rosenau, M. J., surgeon, relieved as Director, Hygienic Laboratory, to take effect Oct. 1, 1909.

Anderson, John F., P. A. surgeon, detailed as Director Hygienic Laboratory, to take effect Oct. 1, 1909.

Billings, W. C., P. A. surgeon, granted 5 days' leave of absence from Oct. 6, 1909.

Holt, J. M., P. A. surgeon, granted 6 days' leave of absence from Oct. 4, 1909.

Boggess, J. S., P. A. surgeon, leave of absence for 7 days from Sept. 24, 1909, amended to read 6 days from Sept. 24, 1909.

Sweet, E. A., P. A. surgeon, leave of absence granted Sept. 9, 1909, for 21 days, amended to read 22 days from Sept. 9, 1909.

Guthrie, M. C., P. A. surgeon, granted 30 days' leave of absence from Oct. 10, 1909.

Wood, C. E., asst.-surgeon, granted 16 days' leave of absence from Oct. 5, 1909.

Lyon, R. H., asst.-surgeon, granted 2 days' leave of absence in September, 1909, under Paragraph 191, Service Regulations.

Altree, G. H., acting asst.-surgeon, granted 30 days' leave of absence from Oct. 2, 1909, without pay.

Cleborne, A. B., acting asst.-surgeon, granted 7 days' leave of absence from Oct. 2, 1909, under Paragraph 210, Service Regulations.

Deerbake, William A., acting asst.-surgeon, granted 1 day's leave of absence in September, 1909, under Paragraph 210, Service Regulations.

Gleason, C. M., acting asst.-surgeon, granted 15 days' leave of absence from Oct. 1, 1909.

Gregory, G. A., acting asst.-surgeon, granted 10 days' leave of absence from Oct. 1, 1909.

Hume, Lea, acting asst.-surgeon, granted 10 days leave of absence from Sept. 30, 1909.

Hunter, W. R., acting asst.-surgeon, granted 14 days' leave of absence from Oct. 5, 1909.

MacCaffry, W. B., acting asst.-surgeon, granted 2 days' leave of absence in September, 1909, under Paragraph 210, Service Regulations.

Onuf, B., acting asst.-surgeon, granted 2 days' leave of absence from Sept. 21, 1909, under Paragraph 210, Service Regulations.

Sinclair, A. N., acting asst.-surgeon, granted 15 days' leave of absence from Sept. 5, 1909.

Walker, R. T., acting asst.-surgeon, granted 9 days' leave of absence from Oct. 18, 1909.

Wetmore, W. O., acting asst.-surgeon, granted 1 day's leave of absence, Sept. 20, 1909, under Paragraph 210, Service Regulations.

Health Reports

The following have been reported to the Public Health and Marine-Hospital Service, during the week ended Oct. 8, 1909:

SMALLPOX—UNITED STATES

District of Columbia: Washington, Sept. 18-25, 2 cases.
Georgia: Macon, Sept. 15-21, 1 case.
Illinois, general, Aug. 1-31, 40 cases; Danville, Sept. 18-25, 1 case; Peoria, Aug. 1-31, 9 cases.
North Dakota, general, July 1-31, 27 cases.
Texas, general, July 1-31, 92 cases; San Antonio, 2 cases.
Utah, general, Aug. 1-31, 101 cases; Salt Lake City, 17 cases.
Washington: Seattle, July 1-31, 2 cases.

SMALLPOX—FOREIGN

Chile: Valparaiso, Aug. 21-28, present.
China: Hankow, Aug. 18-25, 1 case.
Egypt: Cairo, Aug. 26-Sept. 2, 1 case, 1 death.
France: Paris, Sept. 4-11, 1 case.
India: Bombay, Aug. 18-31, 6 deaths; Madras, Aug. 14-20, 1 death.
Italy, general, Sept. 5-12, 7 cases, 5 deaths.
Java: Batavia, Aug. 14-21, 2 cases.
Mexico: Monterey, Sept. 12-19, 2 deaths.
Persia: Mazanderan, July 1-31, epidemic.
Portugal: Lisbon, Sept. 4-11, 1 case.
Russia: Moscow, Aug. 28-Sept. 4, 7 cases, 2 deaths; Riga, Sept. 4-11, 2 cases; St. Petersburg, Aug. 21-Sept. 4, 25 cases, 8 deaths.
Spain: Barcelona: Aug. 28-Sept. 11, 5 deaths; Valencia, 1 case; Vigo, Sept. 4-11, 2 deaths.

YELLOW FEVER

Brazil: Para, Aug. 28-Sept. 7, 9 cases, 6 deaths.

CHOLERA—INSULAR

Philippine Islands: Manila, Aug. 14-28, 3 cases, 2 deaths; Provinces, 342 cases, 246 deaths.

CHOLERA—FOREIGN

China: Amoy, Aug. 14-28, 39 deaths; Hankow, Aug. 18-25, 2 deaths.
India: Bombay, Aug. 18-31, 92 deaths; Calcutta, Aug. 7-21, 11 deaths; Madras, Aug. 14-20, 1 death; Rangoon, 6 deaths.
Japan: Karatsu, Sept. 1, 2 cases, on steamship Tain Maru; Mitajiri Aug. 22, 21 cases.
Korea: Sept. 2, epidemic in the northern part.
Manchuria: Liaoyang, Aug. 10-14, 1 death; Mukden, 1 death; Tashichiao, 1 death; Yinkou, 6 cases, 1 death.
Russia. general, Sept. 3-10, 716 cases, 257 deaths, Sept. 11-17, 946 cases, 251 deaths; St. Petersburg, Sept. 3-10, 167 cases, 45 deaths, Sept. 11-17, 246 cases, 87 deaths.

PLAGUE

Chile: Iquique, Aug. 18-Sept. 5, 6 cases in lazaretto.
China: Amoy, Aug. 14-28, 105 deaths; Hongkong, Aug. 14-21, 1 case, 1 death.
India, general, Aug. 14-21, 1,821 cases, 1,376 deaths; Bombay, Aug. 18-31, 64 deaths; Calcutta, Aug. 7-21, 31 deaths; Rangoon, Aug. 14-21, 28 deaths.
Japan: Kobe, Aug. 29-Sept. 4, 5 cases, 2 deaths.
Peru, general, Aug. 28-Sept. 4, 13 cases, 9 deaths.
Zanzibar: Zanzibar, July 23-24, 2 deaths.

Marriages

George A. Downs, M.D., to Mrs. Ella Thomas Seiling, both of Spokane, Wash., September 18.

Horace L. Husted, M.D., Muscatine, Iowa, to Miss Mabel Merritt, of Iowa City, September 22.

Herman Winford Bundy, M.D., Sadorus, Ill., to Miss Edith Stone of Tolono, Ill., September 29.

William James Swift, M.D., Chicago, to Miss Florence Josephine Lang, of Berlin, Ont., October 6.

Albert V. N. Hennessy, M.D., to Miss Marie Cornelius, both of Council Bluffs, Iowa, September 29.

Edward E. Nathan, M.D., Chicago, to Miss Julia Goldberg, of Deadwood, S. D., in Chicago, October 1.

Alfred Nicholas Murray, M.D., to Miss Edna Auretta Schmidt, both of Chicago, September 30.

Louis Edmunds Guy, M.D., to Miss Anna Thea Louise von N. Rosenegk, at Richmond, Va., September 28.

Archibald G. Thomson, M.D., to Mrs. Mary L. W. Wanamaker, both of Philadelphia, September 29.

Lansing Y. Lippincott, M.D., Metuchen, N. J., to Miss Louise W. Cragin, of New York City, September 22.

Sims Seward Hindman, M.D., Glen Olden, Pa., to Miss Anna Maryland Larimore, of Seaford, Del., October 2.

Rogers M. McCowan, M.D., Knoxville, Tenn., to Miss Nellie Tittsworth, of Jefferson City, Tenn., October 5.

Edgar Hall Hand, M.D., to Miss Nannie Williamson, both of Pineville, N. C., in Charlotte, N. C., September 22.

T. Flournoy Worthington, M.D., Myrtle Grove, La., to Miss Celeste Scudder, of Vicksburg, Miss., September 22.

Edgar Clyde Jones, Medical Reserve Corps, U. S. Army, to Miss Anne Katherine Laughlin, of Silver City, N. M., September 16.

Henry Arthur Cassebeer, Jr., M.D., to Mrs. Eleanor Genevieve Pacake, both of New York City, in London, England, September 29.

Deaths

Harry Dorr Niles, M.D. Medical College of Ohio, Cincinnati, 1880; a member of the American Medical Association; in 1907, president of the Utah Medical Society; formerly president of the Western Surgical and Gynecological and Rocky Mountain Inter-State Medical associations; chief-of-staff of the Holy Cross Hospital, Salt Lake City; Utah; an honorary member of the state associations of Colorado and Idaho; died at his home in Salt Lake City, September 28, from cerebral hemorrhage, aged 53. The Salt Lake Medical Society, Salt Lake County Medical Society, and medical staff of the Holy Cross Hospital, at special meetings, adopted resolutions of regret and condolence.

George Edward Post, M.D. New York University, New York City, 1850; dean of the faculty of the Syrian Protestant College, Beyrout, Syria, Asia Minor; professor of surgery in the Syrian Protestant Hospital; and surgeon of the Johanniret Hospital, Beyrout; whose work in the medical missionary field won for him the decoration of the Osmanieh from the Sultan of Turkey, and of the Red Eagle and Knights of Jerusalem from Germany; author of text-books on botany, zoology, physiology, surgery, and materia medica, primarily for the use of his students; died in Beyrout, September 30, aged 70.

Christopher James Cleborne, M.D. University of Pennsylvania, Philadelphia, 1860; rear admiral U. S. Navy, retired; who entered the Navy in May, 1861, served through the Civil War, and during the Spanish-American War was in command of the U. S. Naval Hospital, Norfolk, Va.; served on sea duty for ten years and eight months, and on shore duty for twenty-five years and five months; was retired November 10, 1899 for incapacity resulting from incident of service; died at his home in Washington, D. C., October 2, aged 71.

Pasquale DeCunto, M.D. University of Naples, Italy, 1898; a member of the Colorado State Medical Society; a prominent Italian physician of Denver; who on account of his work in behalf of his fellow-countrymen was made a chevalier of the Order of the Crown of Italy by the King; died at the home of his mother-in-law in Brooklyn, N. Y., October 6, from bronchitis, aged 43.

John Joseph Quirk, M.D. Rush Medical College, Chicago, 1888; a member of the American Medical Association; adjunct professor of skin and venereal diseases in the College of Physicians and Surgeons, Chicago, and the Chicago Clinical School, secretary of the local board of U. S. Pension Examining Surgeons; died at his home in Chicago, October 4, aged 44.

John Newton Gregg, M.D. University of Michigan, Ann Arbor, 1862; of Whittaker, Mich.; professor of anatomy in his alma mater from 1862 to 1864; surgeon of the Twenty-fifth Volunteer Infantry during the Civil War; died at the home of his nephew in Fond du Lac, Wis., September 28, from heart disease, aged 73.

Daniel A. Smith, M.D. Eclectic Medical Institute, Cincinnati, 1855; surgeon of the Twenty-second Georgia Infantry, C. S. A., during the Civil War; mayor of Butler, Ga., and afterward state senator; later mayor of Anthony, Fla., and a member of the legislature; died recently at his home in Anthony, aged 79.

Henry A. Eidson, M.D. Rush Medical College, Chicago, 1880; a member of the Illinois State Medical Society; and of the local board of U. S. pension examining surgeons; died suddenly, while making a professional call at his home in Willow Hill, October 7, from hemorrhage, aged 62.

Charles Horace Evans, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1869; of Chicago; from 1897 to 1904, lecturer on materia medica in Hahnemann Medical College; died in Union Hospital, Chicago, October 4, after an operation for carcinoma of the stomach, aged 62.

Harold Verne Noyes, M.D. Medical School of Maine, Brunswick, 1881; a member of the York County (Maine) Medical Society; for many years superintendent of schools of Berwick; died at his home in Berwick, January 25, from cirrhosis of the liver, aged 50.

Charles Alonzo Cordiner, M.D. Baltimore (Md.) Medical College, 1901; of Portland, Ore.; formerly of Astoria, Ore., and secretary of the Clatsop County Medical Society; died in the Good Samaritan Hospital, Portland, September 25, from spinal meningitis, aged 29.

James Fulton, M.D. Jefferson Medical College, Philadelphia, 1859; a member of the Medical Society of the State of Pennsylvania; one of the oldest practitioners of Chester county; died at his home in New London, September 28, from angina pectoris, aged 77.

Edward Pierson Nicholson, M.D. University of Nashville, Tenn., 1861; a member of the Medical Association of the State of Alabama; died at his home in Valley Head, September 29, from the effects of aconite, taken by mistake for cough syrup, aged 74.

Ludwig Kohn, M.D. University of Vienna, Austria, 1887; a member of the Medical Society of the State of New York; died at his home in New York City, October 4, from the effects of carbolic acid, taken in mistake for a nerve tonic, aged 45.

Charles Parsons Beaman, M.D. New York Homeopathic Medical College, New York City, 1882; a member of the American Medical Association; physician to Cornell University Athletic Association, Ithaca, N. Y.; died October 6, aged 49.

Junius Kincaide Battle, M.D. Tulane University, New Orleans, 1883; a member of the Medical Association of the State of Alabama; city physician of Eufala, Ala.; died at his home in that city, September 28, from cerebral hemorrhage, aged 48.

Otto Frankenberg, M.D. Starling Medical College, Columbus, Ohio, 1870; for twenty years a member of the faculty of his alma mater; died at his home in Grand View, Columbus, September 29, from disease of the bladder, aged 63.

Julian Branch, M.D. Detroit (Mich.) College of Medicine, 1905; of Otisville, Mich.; a member of the Michigan State Medical Society; died in Harper Hospital, Detroit, after an operation for appendicitis, September 30, aged 32.

Charles Frederick Ferguson, M.D. Queen's University, Kingston, Ont., 1859; formerly member of Parliament for Leeds and Grenville, Ont.; died suddenly at his home in Kemptville, Ont., October 1, aged 76.

Riley S. Lycan, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1880; a member of the Illinois State Medical Society; died at his home in Paris, October 2, from pulmonary tuberculosis, aged 54.

Russell Clute, M.D. Albany (N. Y.) Medical College, 1903; of Maplewood, N. J.; physician to Christ's Hospital, Jersey City; died at the home of his sister in Amsterdam, N. Y., September 24, aged 33.

William Alexander Brooks, M.D. Jefferson Medical College, Philadelphia, 1850; a retired practitioner of San Antonio, Texas; died at a local sanitarium, September 18, from senile debility, aged 84.

Ernest Clark Gwinn, M.D. College of Physicians and Surgeons, Chicago, 1906; formerly of Sadorus and Paris, Ill.; died in Monrovia, Cal., from pulmonary tuberculosis, September 9, aged 28.

Joseph S. Biggart (license, Tenn., 1889); an eclectic practitioner of Carroll county, Tenn.; died at his home near Carter's Chapel, recently, and was buried September 26, aged 63.

Isaac M. Mulholland (license, Ohio, years of practice, 1896); for sixty-two years an eclectic practitioner; died at his home in Toledo, June 21, from edema of the lungs, aged 85.

H. F. McCoy, M.D. Columbus (Ohio) Medical College, 1879; formerly of Chauncey, Ohio; died at his home in Harper, Kan., from disease of the kidney recently, and was buried October 3.

William Turner Nolen, M.D. Hospital College of Medicine, Louisville, Ky., 1890; a member of the New Mexico Medical Society; died at Los Tanos, July 14, from tetanus, aged 40.

William A. Childress, M.D. Medical College of Georgia, Augusta, 1858; a Confederate veteran; and a pioneer citizen of Atlanta, Ga.; died at his home, October 1, aged 73.

James Lawson Davis, M.D. University of Alabama, Mobile, 1874; postmaster of Lafayette, Ala.; died at his home, September 12, from strangulated ventral hernia, aged 63.

Jabez Parkhurst Bidwell, M.D. Albany (N. Y.) Medical College, 1860; died at his home in Morrisonville, N. Y., March 17, 1908, after an illness of twelve years, aged 71.

Edmond B. Towne (license, practitioner, Iowa, 1887); since 1876 a practitioner of Coon Rapids, Iowa; died at the home of his son in that city, September 9, aged 80.

John Campbell Buell, M.D. University of Michigan, Homeopathic College, Ann Arbor, 1892; died at his home in Rives Junction, Mich., September 25, aged 39.

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Dr. McCormack's Meetings Resumed

The public education work carried on by Dr. McCormack was inaugurated this fall with a number of meetings in Kentucky, followed by an address at Marion, Ind., on September 23. The Marion *News-Tribune* says: "The auditorium of the Presbyterian Church . . . was crowded last night with people who appreciated the privilege of hearing Dr. J. N. Mc-

Cormack of Kentucky as well as the fact that his talk did not abound in technical allusions beyond the layman's power of comprehension. The doctor told of what was being done by health boards and physicians generally and referred to the work which remained to be done, but which could not go on without the state's cooperation."

On his way east Dr. McCormack spoke at Greensburg, Pa., on September 25. Extended accounts of the meeting appeared in the local papers. The *Morning Review* says editorially: "His message is one that is clear and truthful and the manner in which he presents it is entertaining and convincing, with good hard facts to back his arguments." The Greensburg *Daily Tribune* says: "An audience entirely satisfactory with regard to size heard the lecture. . . . Fired by intense conviction in all he said, Dr. McCormack made a profound impression as he cited instances of widespread disease and infection resulting from lack of prevention." Dr. James P. Strickler of Scottsdale, secretary of the Westmoreland County Medical Society, writes regarding the meeting: "The society feels that great good has been accomplished. Dr. McCormack's talk in the afternoon to physicians was especially helpful."

The week of September 26 to October 2 was devoted to work in Vermont, meetings being held at Rutland, September 27, Burlington, September 28, St. Albans, September 29, Montpelier, September 30, St. Johnsbury, October 1, and Brattleboro, October 2. The Burlington (Vt.) *Free Press* says, regarding the meeting held at that place: "The address was one of the most interesting and important that has been delivered in this city for a long time." Arrangements have been made for meetings in New Hampshire, North Dakota, Minnesota and Wisconsin during the remaining months of the year.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Second Month—Third Weekly Meeting

DISEASES OF THE BRAIN

Cerebral Hemorrhage

Pathology: Changes occurring in arteries, leading to formation of aneurisms. Hemorrhages may be (a) meningeal, (b) intracerebral, (c) ventricular. Degenerative changes in clot, in gray and white matter.

Intracerebral Hemorrhage (Cerebral Apoplexy)

Primary Symptoms: Onset unusually abrupt. Prodromata infrequent. Loss of consciousness, cyanosis, inactive pupils, stertorous breathing, relaxed sphincters, motor loss, conjugate deviation of eyes and head. Development of hemiplegia, sensory disturbances, reflexes, trophic changes. Diagnosis of lesion at (a) cortex, (b) internal capsule, (c) crus, (d) pons, (e) cerebellum.

Secondary Symptoms: Muscular rigidity, contractures, increased reflexes, atrophy, athetosis, arthropathies, characteristic attitude and gait. Course of disease and prognosis.

Cerebral Embolism and Thrombosis (Cerebral Softening)

Embolism: Etiology, sex, age, endocarditis, atheroma of aorta, in puerperium.

Thrombosis: Etiology, age, sex, infections, cerebral embolism, arteritis and aneurisms.

Symptoms of Cerebral Softening: Onset sudden (embolism) or gradual (thrombosis). Symptoms due to blocking (a) of vertebral or basilar artery, (b) posterior cerebral, (c) internal carotid, (d) middle cerebral, (e) anterior cerebral. Differential diagnosis in cerebral hemorrhage and thrombosis.

Society Proceedings

COMING MEETINGS

Amer. Association of Railway Surgeons, Chicago, October 20-22.
American Public Health Association, Richmond, Va., October 19-22.
Hawaiian Territorial Medical Society, Honolulu, November 19.
Kentucky State Medical Association, Louisville, October 19-21.
Medical Association of the Southwest, San Antonio, Tex., Nov. 9-11.
Nevada State Medical Association, Goldfield, November 2.
Southern Medical Association, New Orleans, November 9-11.

INDIANA STATE MEDICAL ASSOCIATION

Sixtieth Annual Session, held at Terre Haute, Oct. 7-8, 1909

The President, Dr. George D. Kahlo, French Lick, in the Chair

Officers Elected

The following officers were elected for the ensuing year: President, Dr. T. C. Kennedy, Shelbyville; first vice-president, Dr. E. M. Van Buskirk, Fort Wayne; second vice-president, Dr. Eugene Hawkins, Green Castle; third vice-president, Dr. Theodore Potter, Indianapolis; secretary, Dr. F. C. Heath, Indianapolis; treasurer, Dr. David W. Stevenson, Richmond; delegates to American Medical Association, Dr. A. C. Kimberlin, Indianapolis, and Dr. C. H. McCully, Logansport; alternates, Dr. Fred A. Tucker, Noblesville, and Dr. J. Rilus Eastman, Indianapolis.

Fort Wayne was selected as the place for holding the next annual meeting.

Defense of Malpractice Suits

A committee of three was appointed for the purpose of thoroughly considering and investigating from a legal standpoint if it is feasible to establish a fund for the purpose of defending malpractice suits.

Pure Food and Drug Legislation

The following preambles and resolutions were adopted:

Whereas, The Indiana State Medical Association recognizes the great work that is being done in protecting the health of the *people and preventi* [illegible] *f foods and drugs by* the enforcement of [illegible]; and

Whereas, It is [illegible] inufacturing interests are endeavoring to [illegible] and to harass and hinder the officials i [illegible] law; therefore, be it

Resolved: That tl [illegible] Association expresses its confidence in the Indiana State Board of Health to resist any effort made by manufacturers or others, which may in any way weaken the efficiency of the pure food and drug law, or restrict the scope of its operation; and be it

Resolved: That the Indiana State Medical Association does not accept the decision of the Referee Board appointed by ex-President Roosevelt as final, and that it recommends to the President of the United State and the Secretary of Agriculture that further investigations conducted on the broadest lines be continued, that the people and the food producer may know the value, the necessity or harmfulness of any or all food preservatives; and, be it further

Resolved: That the Indiana State Medical Association recognizes and emphatically endorses the work of its fellow-citizen, Dr. Harvey W. Wiley, in his untiring efforts extending over many years to obtain for the people pure foods and pure food legislation, and that it expresses its appreciation of his work by sending him a copy of these resolutions.

Estivoautumnal Malaria

Dr. G. D. Marshall, Kokomo: Seventy-five per cent. of the applications for pensions made by the Spanish-American War veterans were for disabilities due to malarial infections received while in the service, diarrhea and gastrointestinal troubles with nervous breakdown being the alleged causes of disability, which really was a chronic malarial manifestation. I have examined a number of these men and found plasmodia in the blood and obtained a history of recurring attacks once or twice a year ever since the original infection was received while in the service. The burden of diagnosis in these cases rests on a microscopic examination of sputum and blood and the value of these is a matter of individual skill and sincerity. If one has not the technical skill to make the microscopic examination, the chances are that blood films will be so poorly made that examination by an expert would be very unsatisfactory. Quinin is a specific for this disease and will give relief from the symptoms in less time than any other drug if given in sufficient dosage and in a form in which it is absorbed. From 10 to 80 grains should be given daily in combination with an acid to render it soluble. There is usually a severe reaction in the chronic patient who has not received antimalarial treatment. The rapid destruction of the parasites and the breaking down of the corpuscles that contain them cause the formation of enormous quantities of bile, and bilious vomiting is very likely to follow unless the bowels are moved freely. Calomel and phenolphthalein serve this purpose. Iron and quinin should be given for the color test, for hemoglobin may show from 80 to 100 per cent., but this does not signify that the cells are rich with hemoglobin, as there are so many crippled cells that the available oxygen-carrying power of the blood is diminished, giving rise to shortness of breath. Quinin tablets are so insoluble that they should not be depended on. Treatment should be continued for months, especially in severe chronic cases. Recurrent and primary attacks are much easier controlled. I do not make any restrictions in diet, but encourage the patient to take nourishing food whenever the stomach will tolerate it. Cupping or the local application of solidified liniment in which camphor and menthol are incorporated gives relief from the pains due to the neuritis.

DISCUSSION

DR. W. T. S. DODDS, Indianapolis: It is impossible to find the malarial parasites in the peripheral circulation in the estivoautumnal cases after any considerable length of time with any decided determination. From observations which I have been able to make, dating back to 1898, the time when the soldiers returned from the south, as well as the observations of Craig, of the Public Health and Marine-Hospital Service, on the Pacific Coast, I am led to believe that one dose of quinin will drive the parasites from the peripheral circulation, so that they would not be found once in a thousand cells thereafter, unless puncture of the spleen is made. The difficulty of diagnosing malaria from the blood, especially stained blood, is very great. It is particularly difficult in the dry specimen and it requires several examinations before one can prove or disapprove malarial fever, particularly of the estivoautumnal variety. Perfectly normal blood will give one observations which are distinctly disturbing, and repeated examinations are required. While Wright's stain for blood is admirable, at the same time it does not fulfill all the requirements of a blood stain. As to the question of the breeding of mosquitoes in malaria, there is no doubt about that, but there seems to be some question with regard to previous infection. All cases of chills and fever accompanied with gastrointestinal disturbances are not malaria by any means, even if the fever disappears under quinin. A fever which does not respond to large doses of quinin in two or three days is not malarial.

DR. SIMONS, Indianapolis: I agree regarding the difficulty of diagnosing malaria with the stained specimen. Fresh blood, when it can be properly obtained, is much more reliable and much more satisfactory to the man who is making the examination than a stained specimen. One who has examined a great many smears can acquire a degree of aptitude in that kind of work, so as to be able to recognize the parasites without any great degree of error. One should get acquainted with the stain. The form of the organism and the manner in which the blood was taken have a great deal to do with the difficulty. This summer, at the state laboratory, we had seventeen samples of blood that showed the malarial parasite, but only two could be diagnosed as estivoautumnal. Only two showed the crescent form and both of these patients came from outside of the state; one from Arkansas and the other from St. Louis. About twelve out of the seventeen obtained their infection, according to the statements of their physicians, in the state of Indiana, and most of them came from along the Wabash River. For some reason or other there seems to be an increase in the amount of malaria that has occurred in Indiana during the past summer and just why that is I hardly know.

DR. HUGO O. PANTZER, Indianapolis: It takes a courageous spirit nowadays to assert that malaria is still prevalent to any great extent in Indiana. I have found malaria all these years and have contended for its presence and have encountered denial and ridicule. I wish to speak in support more particularly of cases of malaria that are distinctly of the estivoautumnal type. When the malarial parasites are in possession of an individual, they are commonly entrenched with him. I mean by this that when the malarial plasmodium of the estivoautumnal type is once entrenched in the ordinary case, they will continue through life. The estivoautumnal type of fever is present with us almost all the time in those individuals who had it in their youth.

DR. B. W. RHAMY, Fort Wayne: The only cases of malaria, with the exception of one, that I have found have come from out of the state; as, for instance, from Missouri and Mississippi or from the Spanish-American War.

DR. G. D. MARSHALL, Kokomo: The Wright stain is recommended by all authorities that I have read on blood examinations for staining purposes in cases of malaria. As to finding the parasites in the peripheral circulation, they are expected to be found there. I do not recall having read any authority on this subject who would hazard the puncturing of the spleen to obtain blood, as it is too dangerous an operation and is so considered by men who have written on the subject. I believe the parasites can be found in the peripheral blood.

Value of the Leucocyte Count

DR. B. W. RHAMY, Fort Wayne: A differential count is of much more value than a total count. The differential and total count, taken together, may, and often do, give much valuable diagnostic and prognostic aid. The differential count gives an index of the amount of toxic absorption. A high neutrophile count, with a high total count, indicates either an acute systemic infection, a gangrenous process, or suppuration. A neutrophile count above 80 per cent. usually means suppuration. A low polynuclear or total count, in the presence of a severe process, denotes low resistance, proportionate to the decrease. An increase of large lymphocytes, accompanied by an eosinophilia, is presumptive evidence of syphilis in a suspected case. An increase of large lymphocytes and transitional cells, with a diminution of neutrophiles, small lymphocytes and eosinophiles, in the presence of a continued fever, is strong evidence in favor of typhoid. Leucocytic crises may occur in typhoid. Typhoid usually has a leucopenia during the first week; after the first week, leucocytosis is common. A small lymphocytosis may be part of the early pathological changes in thyroidism. The rôle of the transitional cells seems to favor the theory that the large mononuclear cell is the common origin of all forms of leucocytes.

DISCUSSION

DR. H. R. ALBURGER, Bloomington: I wish to call attention to the fact that the average physician must depend on the laboratory worker to make these compilations and do this work for him. In the first place, in making a blood count I find in my laboratory work that a great many practicing physicians, skilful men, do not realize that blood counting cannot be done in a laboratory one hundred miles away from the case. It requires technical skill and rapid careful technical work to make a good blood count, and the physician who intends to follow up his cases to the ultimate clinical analysis should familiarize himself with the technic for making blood counts.

DR. H. H. THOMPSON, Noblesville: Those of us who make our own smears are apt to find the blood at one end of the slide thicker than the blood at the other end of the slide, and I wish to emphasize this fact in the differential count, and how much it means to any one that will take the least time and trouble to look into the matter. Lymphocytes in excess are an indication of resistance. They are an indicator of whether or not the body will be able to survive the infection. When we go into the matter of the differential count we are able to make a better prognosis in the disease with which we have to deal.

DR. A. C. KIMBERLIN, Indianapolis: The numerical count is not reliable unless one is able to estimate correctly the amount of resistance or vital force of the patient himself.

DR. B. W. RHAMY, Fort Wayne: Ordinarily a specimen is sent to the laboratory with the request for a blood examination and report. The laboratory man should have at all times a history of the case and be enabled to confer with the clinician with regard to his findings and the clinical findings in order to do good and satisfactory work.

The Treatment of Pulmonary Hemorrhage

Dr. Theodore Potter, Indianapolis: The first and most important thing to secure in the presence of pulmonary, as of other hemorrhages, is rest and quietude of body and mind. The patient, except in the unusual cases of profuse bleeding from a ruptured large vessel or aneurism, may be assured that there is little danger; that the loss of a few ounces or a pint of blood will of itself do little harm and may be beneficial in relieving congestion. Thus the fright may be allayed and nervous excitement lessened. If the bleeding may be in any degree profuse, or be continuous or recurrent, absolute bodily quietude should be enjoined. What are the other things which may help to arrest bleeding? They lie chiefly in four directions: to lower the blood pressure in the lungs; to divert the blood from the lungs on the principle of revulsion, to immobilize the bleeding lung as far as practicable, and to use such artificial measures as are safe to promote the general and local quietude. The last indication is best met by opium.

DISCUSSION

Dr. G. T. McCoy, Columbus: Some hospitals report as high as 10 per cent. of fatal cases of tuberculosis terminating by hemorrhage, and others as low as 1 per cent. of fatal cases. One cannot always determine the location of the hemorrhage, and the condition of the patient forbids anything but a very slight examination, confined to auscultation only for fear of adding to the seriousness of the case. Hemorrhage may be the first indication that any lesion of the lungs exists, but it does not in any manner indicate the extent or duration of the disease. It may come from a tuberculous infiltration of the vessel wall, or a destruction of tissue immediately surrounding the vessel and be the only part of the lung diseased. When it is the first manifestation of a lung lesion a serious hemorrhage need not be expected. When called to a case of pulmonary hemorrhage the physician should at once attempt to gain the confidence of the patient, allay his fears, and obtain quiet not only of the patient but of his surroundings. Quiet of mind and body is essential. The lowering of the blood pressure is of prime importance. This I generally secure by the administration of nitroglycerin in 1/100 grain tablets, dissolved on the tongue, or one minim of a 1 per cent. solution of nitroglycerin administered hypodermically. I follow this with veratrum viride until a marked impression is made on the pulse and seek to maintain this condition for several hours. If there is evidence of collapse, this treatment is not indicated. I seldom recommend opiates.

Dr. Joseph Collins, New York City: It has been my practice in hospital work, where I see a large number of cases of tuberculosis, to do nothing in the treatment of hemorrhage from the lungs save to give a dose of nitroglycerin, and if there is any considerable stress of mind or body in the shape of cough or physical agitation to combine the nitroglycerin with small doses of morphin. In the practice of internal medicine ergot has done more harm than good. In the past it has been used as a remedy for almost every spinal cord disease, and I hope it will be abolished except for use in bringing about contraction of the uterus.

Dr. F. B. Wynn, Indianapolis: I believe that generally we can tell where hemorrhage comes from in these cases. In the first place, the type of hemorrhage may be noted often times in the sputum in which the masses are simply tinted, pin-head sized or larger masses of blood than the mucus. Such minute hemorrhages may come and generally do come from the bronchial tubes; that is to say, in conjunction with any pulmonary condition in which there is a paroxysm of coughing, with prolonged effort and inducing passive congestion of the mucosa of the bronchial tubes, tiny capillaries may rupture and minute hemorrhages of this character occur. These paroxysms occur when there is associated laryngeal tuberculosis, with prolonged whooping cough-like paroxysms. The hemorrhage the essayist discussed is a hemorrhage *en masse*, and such hemorrhages must come when there is destruction of lung tissue. These big hemorrhages generally mean abscess or necrosis of lung tissue. In the treatment quiet and rest are very essential. This can be induced by morphin and other measures.

Dr. T. Potter, Indianapolis: I should have said something about the use of the nitrates in my paper, as they seem to be coming into use more of late than formerly. A great many practitioners speak of them in reducing blood-pressure, and they are especially noted for their quick action; yet from my experience, where there are no contraindications to their use, I am inclined to believe that such drugs as aconite and veratrum are valuable.

(To be continued)

AMERICAN ROENTGEN RAY SOCIETY

Tenth Annual Meeting, held in Atlantic City, N. J., Sept. 23-25, 1909

The President, Dr. George C. Johnston, Pittsburg, Pa., in the Chair

Officers Elected

The following officers were elected for the ensuing year: President, Dr. George E. Pfahler, Philadelphia; vice-presidents, Drs. Vernon J. Willey, Rochester, Minn.; C. E. Coon, Syracuse, N. Y.; R. D. Connell, St. Louis, Mo.; and R. D. Hammond, Providence, R. I.; secretary, Dr. Percy Brown, Boston; treasurer, Dr. Charles F. Bowen, Columbus, Ohio.

Detroit was selected for the next place of meeting, time of meeting to be decided later.

Journal to Be Established

It was decided to substitute for the annual volume of transactions a quarterly journal, to be devoted entirely to the use of the Roentgen ray in medicine. The first issue of the journal will appear about December 1. The editor is Dr. P. M. Hickey, Detroit, Mich.

Roentgen-Ray Examination of Mastoid Region

Dr. Sidney Lange, Cincinnati, Ohio: A skiagraphic examination of the mastoid region is very valuable as a means of diagnosis in mastoid disease. The skiagraph is made with the patient lying on the side, the rays being projected from above and behind, and pointing toward the mastoid of the opposite side. An exposure of from five to ten seconds is made, both sides being skiagraphed for purposes of comparison. The most reliable results were obtained in chronic cases, the skiagram usually showing more or less marked sclerosis with haziness or obliteration of the mastoid cells. In several instances the skiagraphic diagnosis was confirmed by operation. Only a small number of acute cases were examined, and no conclusions could be drawn. Severe acute cases, accompanied by extensive bone destruction, were easily recognized. In two cases, abscess of the mastoid was diagnosed and verified by operation. There must be cooperation between radiographer and otologist for the purpose of comparison and verification of the findings.

DISCUSSION

Dr. Charles F. Bowen, Columbus, Ohio, cited an instance in which a skiagraphic examination would have aided the operator to avoid entering an anomalous lateral sinus during an operation, thus obviating a second operation.

Dr. W. F. Manges, Philadelphia, pointed out the advantage of stereoscopic radiography in this connection, and exhibited skiagraphs of a number of cases.

Relations Between Bodily Deformity and Gastrointestinal Irregularities

Dr. Percy Brown, Boston: Two classes of cases may be considered under this head: (1) the class in which an apparent postural deformity overtops in importance subjective signs; (2) a class in which gastrointestinal symptoms continue to exist because of failure to recognize the real cause of the trouble. The Roentgen method of diagnosis is applicable in each class. Etiologically, there must be considered (1) accidental deformities, and (2) wilful disfigurement of the body. For instance, in cases of lateral spinal curvature, the stomach may be so outlined as to make it appear almost inconceivable that ordinary peristalsis was not interfered with seriously. in kyphotic asymmetries of the spine, especially of tuberculous origin, no appearances in the shape and position of the stomach was found differing from those in scoliotic cases. It would seem, therefore, that the torsion of the stomach commonly seen in the scoliotic cases has a certain bearing on the malposition of the stomach. Other cases in which alimentary imperfections are often found are those in which occupation postures and other postural habits are the cause of the trouble, but in which the perversion had not become structural. In this class are the milder types of postural lateral spinal curvature, round back, etc. The wilful disfigurements of the body leading to visceral ptoses are the result of tight lacing, etc.

DISCUSSION

Dr. Charles M. Hazen, Richmond, Va., pointed out that in most of these cases there is a lack of tone in the spinal column which he thought had been overlooked as a cause of ptosis.

Roentgen-Ray Diagnosis of Achondroplasia and Cretinism

Dr. Henry K. Pancoast, Philadelphia: I found striking characteristic radiographic features in a case of achondroplasia which I had the opportunity of observing. There was decided deficiency in the epiphyseal development of the shafts of the extremities, making them appear short, both actually and relatively, in comparison with other long bones. They also appeared to be too thick for their length. There is an abrupt expansion of the diaphysis in the neighborhood of the diaphyso-epiphyseal junction, a rather abrupt bowing of the lower end of the femur, and the upper end of the tibia, with a fairly well-developed head of the femur, a poorly developed short, thin neck, and a far better relative development of the trochanter.* The appearance of the hands and feet is also characteristic, the bone being exceedingly cancellous in structure. There was also a tendency to symmetrical osteomatous growths on the long bones of the upper extremities, and a deficient and irregular ossification and growth at the epiphyseal ends of the diaphyses, particularly in the knee joint. Cretinism, on the other hand, does not present any characteristic radiographic features.

DISCUSSION

Dr. Charles Lester Leonard, Philadelphia: I examined a case of cretinism about eight years ago in which I found distinct and separate foci of ossification in the ends of the tibia and the femur. There appeared to be three rings of ossification in the small bones of the hands and feet. This might be a point of differentiation between cretinism and rickets, and cretinism and achondroplasia.

Dr. P. M. Hickey, Detroit: I have found a corresponding lack of development in the bones and in the mental capacity of the patient, so that a patient with the bones of a 5-year-old child also cerebrated like a child of that age.

(To be continued)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Fifty-ninth Annual Session, held in Philadelphia, Sept. 27-30, 1909

(Continued from page 1217)

Resolutions Adopted at the Busineess Meeting

CONDEMNATION OF PRESERVATIVES IN FOODS

The following resolutions were unanimously adopted by the Medical Society of the State of Pennsylvania on September 30, having been introduced into the house of delegates two days previously and considered on three separate days:

Whereas, Public opinion has become much aroused over food adulteration; and

Whereas, Diverse opinions have been expressed concerning the use of preservatives in the manufacture of foods; and

Whereas, Certain preservatives make possible the use of foods that have begun to decay; be it therefore

Resolved, That the Medical Society of the State of Pennsylvania, in convention at Philadelphia, declares that it condemns the use as food preservatives of benzoic, boric and salicylic acids and their compounds, and all other similar chemicals, as, in the opinion of this society, such preservatives are unnecessary and are detrimental to the public health; and be it further

Resolved, That this society is opposed to adulteration of food of any kind whatsoever; and be it further

Resolved, That this society indorses the stand taken by the American Medical Association in its fight against food adulteration, and indorses its action in appealing to Congress for immediate amendment of the national Food and Drugs Act; and be it further

Resolved, That this society indorses the stand taken by Dr. Harvey W. Wiley in his campaign for pure food and pure food legislation; and be it further

Resolved, That the society commend the daily newspapers and individuals who have taken a stand against artificial food preservatives and give them added encouragement to continue their fight.

NOSTRUM ADVERTISING

The following resolution was passed:

Whereas, It is the unanimous opinion of the medical profession that the disuse of nostrums and "fake cures" of incurable diseases can be accomplished only by the education of the public against their use; be it

Resolved, That the Medical Society of the State of Pennsylvania highly commend those newspapers and journals who refuse all nostrum advertisements and condemn such so-called remedies in their news columns.

Fourth of July Celebration Condemned

The report of the Committee on Independence Day fatalities contained the following recommendations:

Legal control of the importation, manufacture and sale of explosives used only for purposes of celebration; municipal control of the use of firearms and explosives and of fireworks during the Fourth-of-July season; municipal participation in substitution methods; the organization of societies for both control and substitution purposes; the most complete possible systematic use of tetanus antitoxin and other medical measures in both the prevention and treatment of tetanus and sepsis; the setting apart of a day in all public schools, academies and colleges during the last days of the session before the summer holiday, to make all possible provision against the evil; the allusion to the matter in all churches on the last Sunday preceding Independence Day; the continuance and increase of the agitation in the newspapers; the continuance of the work by this society.

Approval of Board of Public Instruction

The Committee on Scientific Business recommended endorsing the work of the Board of Public Education of the American Medical Association, and the formation of a committee to cooperate in the undertaking.

Venereal Diseases

Dr. Lawrence Litchfield, Pittsburg: It is probable that in this country the percentage of the population infected with venereal diseases does not vary greatly from that in Germany, where on any single day about 100,000 people are under treatment. The state or municipality has the same moral obligation and the same financial interest in the control of venereal diseases as in the control of any other contagious disease. Any attempt at police control of prostitution without the European system of registration would be futile and impracticable for our American cities. This may not be a misfortune for it is not yet demonstrated that better results cannot be obtained by social organization against the social evil. All who have given much thought to the subject agree that the only efficient method consists in the education of the public, the establishment of free dispensaries for the treatment of venereal diseases with every possible inducement to get the infected to accept the treatment thus offered, the repeal of bad laws and the adoption of new ones which work only for the desired end. I urge the organization, from our present local societies, of an American association for the prevention of social diseases, with branches and dispensaries in all our cities.

DISCUSSION

Dr. Ella N. Ritter, Williamsport: This subject is one of the last that we as physicians have earnestly considered. Eighty per cent. of children are born blind and a large number are stillborn from this disease. Education is the specific at our hand and we should make a better attempt than in the past to do something along this line.

Dr. S. Nelson Wiley, Norristown: I have it on the authority of one of the greatest gynecologists in this city that the great mass of gynecologic abdominal work is due to gonorrhea. If we know that a man is not fit to marry a pure girl it is our business to say so. For a number of years, in the few cases I do treat, I have made it a point to say to the patient that he must not marry until he has the very best evidence of cure. Some of them say: "I will marry when I please." "No," I say, "you will not." The preacher, when performing the ceremony, asks if any one knows any reason why the marriage should not take place. I have a threat standing over four men to-day that I will stand up in any house or any church and say that they are not fit to marry.

Dr. A. E. Roussel, Philadelphia: After a rather extensive observation of the methods employed abroad, more particularly in Paris, in the registration of cases of venereal diseases, I can not but believe that those methods possess advantages over the ones in this country. I hope the time is not far distant when cases of this kind will be required by law to be reported, and I am persuaded that such requirement will aid greatly in the suppression and diminution of this terrible infection. I take it that on the man about town, or the younger man, the possibility of having his name noted on the books of the board of health, would have a very deterrent effect.

Dr. C. L. Stevens: Do I understand that Dr. Roussel favors police regulation of prostitution in this country?

Dr. Roussel: I do.

Dr. Stevens: Would you limit that to the female prostitute, or would you include the male prostitute?

Dr. Roussel: I think the first step in this direction will be on the side of the weaker sex; ultimately I should be in favor of the registration of both sexes.

Dr. Stevens: Have you the statistics in this country where police supervision has been attempted?

Dr. Roussel: I will not say of this city, but I fail to imagine that conditions are so different that the results obtained abroad should not be obtained here.

Dr. Lowell M. Gates, Scranton: I imagine that if the method suggested by Dr. Roussel were carried out it would drive these people for treatment to the illegitimate practitioner, who would shield them from report. In the matter of education I believe we should make the symptoms and consequences of this disease so plain that every woman would know the cause of her trouble in less than a month after marriage, and be in a position to charge her husband as the cause of the infection. For fear of causing trouble we have been too timid in advancing facts. In addition to this we should be willing to stand up and threaten these men. Let us protect humanity!

SYMPOSIUM: THE PROBLEM OF THE PUBLIC SCHOOL FROM THE MEDICAL POINT OF VIEW

The Studies and Their Effects on the Nervous System

Dr. Lawton M. Hartman, York: 1. The subject of nervous diseases among the school children has not received sufficient attention. 2. There is now no definite knowledge of the part played by any particular study or group of studies or any school occupation in the development of nervous affections among school children. 3. There is a large and varied group of nervous manifestations occurring among school children, the development and continuation of which alterations from the normal are attributed to school work and especially to school overwork. 4. Before the age of puberty overwork at school is not a large factor. 5. After the age of puberty, especially among girls, in schools where strong efforts to excel are expended, overwork at school plays a much more definite part. 6. The importance of medical inspection of schools is becoming universally recognized. 7. Broader legislation should be urged for more accurate and more powerful medical inspection. 8. The introduction into the higher educational institutions of departments for the study of the child as an entity has and will produce results most practical, valuable and interesting. 9. The earlier recognition of variations from the normal existing among school children with the institution of medical and educational treatment would accomplish much. 10. The individual management of those pupils nervously affected is the only rational way of providing for the proper and continued education and supervision of the health of the school youth.

School Houses and School Habits and the Development of the Body

Dr. Thomas Grier Simonton, Pittsburg: Physical culture in the school should be taught so that it will become the habit of adult life. Posture, study habit, and concentration are affected by physical culture and correct breathing. The best results are to be obtained by promoting the action of the lungs and digestion and the function of the skin. A foot tub, or wash basin with warm or cold water, soap and a rough towel are procurable in nearly every home, and the pupils should be taught that a daily sponge bath, followed by friction of the skin with a towel, is what is required of them at home, while deep breathing and physical culture is taught them at school. Warden Lewis of the Allegheny county jail at Pittsburg recently inaugurated daily open-air physical exercise for his 800 prisoners. Asked what has been the result, he replied, "better discipline, better digestion, more contentment, less medicine." The best results are obtained only when the physical instructors of the children are living examples of the system employed. Catch-penny stores near schools, with their cheap cakes and candy, their obscene postal cards and literature, are grave dangers. Statistics show the relative ratio between cigarette users and non-users in standing, truancy and juvenile court subjects.

Medical Oversight

Dr. H. Herbert Herbst, Allentown: The paper is a treatise on medical oversight of the public schools, not so much a detail and description of the method itself, but a plea for more interest and a larger introduction of this work into the public schools of this country. The latest reports show the growing sentiment in favor of this work, its importance, and its appreciation by the general public. The measure is not, however, growing throughout the United States in proportion with the amount of good that has been accomplished.

The Knowledge of Most Value to School Children

Dr. George W. Wagoner, Johnstown: The common school system of education is the most important element in the nation's life, providing the only education the vast majority can hope for. Ten years is the limit of time most children have to devote to school. Advanced education and college training can be enjoyed by only a very few. In considering the knowledge which is most valuable, the first and most essential is a thorough knowledge of the alphabet. There are few who leave school and enter on the active duties of life with a working knowledge of the possibilities, the flexibility, and the limitations of the alphabet as a whole, or the correct sounds of its individual elements. The next essential elementary knowledge is spelling. The next is reading—the ability to read with the spoken voice in a clear, distinct and orderly manner so as to convey to the listener the full meaning and beauty of the printed page. Writing is the fourth essential. Arithmetic, the art of reckoning, is another of the elementary essentials of all knowledge. By its principles we reckon the relations between all material objects, we define space, and comprehend time. The development of these units with the subsequent addition of the dependent units, history, grammar, literature, civics, and geography gives a coherent fund of knowledge which is called elementary education. Such education the child has the right to receive from the state. If each pupil is well-grounded in all these branches he has what democratic society undertakes to give him, the essential elements of all human culture, and with them the door is opened and he is at the threshhold of every department of human activity.

Discussion on the Public School Problem

Dr. Charles P. Stahr, Lancaster: Medical men can do much toward furthering the work of medical inspection in schools, and it is to them that the children of the state must look for benefit in physical, mental and medical ways. I believe that chorea among school children is attributable to an inherited, unstable nervous temperament coupled with the desire to outrank other children rather than to the school curriculum. Dr. Hartman's idea of a sort of clearing-house for deficient children coincides with a pet theory of mine. If we had such a psychologic laboratory under the care of persons trained in child study we could help those children who never get beyond the primary grades for five or six years.

DR. EDWARD B. HECKEL, Pittsburg: As has been mentioned, the school boards are absolutely supreme. They fix the tax rate and spend the money as they please, and it is usually spent in putting up very fine buildings which are pointed to with pride as the standard of the education in that community. The public school teacher receives too little compensation. No attraction is offered to young men and young women as teachers. Much of the teaching is faulty and the child, who is an adept in discerning faulty teaching, loses respect for the teaching and the teacher. Especially is this true relative to the evil effects of tobacco and alcohol as taught in the public schools. It would be easy for the teacher to teach that tobacco is always a poison; that though some people stand it very well, others stand it very badly; that it sometimes produces blindness. These are facts which will bear the closest scrutiny.

DR. WALTER S. CORNELL, Philadelphia: The medical inspection of school children rests on three facts: It is important to the teacher because it has a direct relation to the child's education; to the physician, because the health of the child largely determines the health of the adult afterwards; to the state, because the efficiency of the citizens depends largely on their health and physique. In the nervous conditions of school children I agree that the school curriculum is of minor importance compared with other factors. The example of New Jersey should be followed in having a conference between the educational authorities and the medical profession to determine a proper balance.

DR. E. BOSWORTH MCCREADY, Pittsburg: That the medical inspection of schools will soon be universal is the wish of every one with the welfare of humanity at heart. There should also be provision for taking care of the child which may be backward after the physical defect has been remedied.

DR. BATTEN: In the education of our young people we should ascertain to what they are adapted and educate them along those lines.

DR. HAROLD B. WOOD, Philadelphia: Inspection of boarding schools should not be overlooked and physicians should help to patronize those schools in which health conditions are known to be good.

DR. GUMP, Bedford: It is impossible for children at the early age at which they are sent to school, to study as they are expected without being overtaxed. If they were allowed to run wild until 8 years of age before entering a schoolroom, until then being taught by their parents, they would be better mentally and physically.

DR. HEFFNER, Pottstown: In the cities there are all sorts of attractions that affect the children more than study. Not many children are made sick by overstudy. I am the father of six boys, and none of them ever suffered from overstudy, but I must also say that most of those boys were raised in the country.

DR. JOHN C. DEVENNEY, Harrisburg: The dosing of children with "patent medicines," laudanum, and all sorts of anodynes, has much to do with the condition of the eyes. In a case under my observation it was thought when the children started to school that there was a brain condition which prevented them from learning. Correction of the eye defects removed the difficulty.

DR. BROOKS, Wilkes-Barre: We should instruct our house of delegates to confer with the lawmakers on school hygiene, letting it be known that we are desirous of having medical inspection in the cities of Pennsylvania.

Oration on State Medicine: Control of Disease

DR. ARTHUR B. MOULTON, Camp Hill: Frequently the cause of disease is almost within one's grasp and yet the significance of the facts may pass for centuries unnoticed. The idea of segregation is mentioned in the books of Moses. It is presumed that smallpox existed in China more than a thousand years before the Christian era, and scarlet fever nearly 500 years before. No quarantine restrictions were established in England until 1348. The first attempt at the centralization of health authority was made at Venice in 1495. During the first two centuries after this country was discovered no health laws were passed. Probably the first restrictive measures adopted by any central health authority on the American continent was the order issued by court in Massachusetts during 1647. In 1700, a quarantine law was passed in Massachusetts and also in Pennsylvania. All regulations enforced for the control of communicable diseases during the past can be classed under three heads: (1) that which has to do with commercial interests as prompted by the commercial spirit alone; (2) class legislation to protect the rich and cultured from the diseases of the poor, which is purely selfish; (3) the one on which we have entered at the present time for the protection of the people at large.

(To be continued)

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Twenty-Second Annual Meeting, held at Fort Wayne, Ind., Sept. 21-23, 1909

(Concluded from page 1220)

Four Hundred and Forty Operations on the Appendix

DR. EDWARD J. ILL, Newark, N. J.: I deplore the late diagnosis and the too-frequent use of the hypodermic syringe, but for these the general results would be much better. Of the 440 patients operated on, 40 per cent. were males and 60 per cent. females. In 81 women the appendix was removed incidentally, while other surgical conditions prevailed and many were shown to be normal by the pathologist. I deplore the frequency with which the appendix is removed, simply because the abdomen is opened, and believe that no operation should be done except for the express purpose of removing symptoms of disease for which the patient seeks advice. Any prolongation of the operation may add to the patient's danger and certainly to his discomfort during convalescence. The youngest person operated on was 5 years old, and the oldest was 65 years. In 43 per cent. of the cases there was suppuration. Among the 189 septic cases there was localized abscess in 109, and diffuse suppurative peritonitis in 70. What seems to be a general peritonitis is recorded in 8 cases, and 2 patients had septicemia. The total number of deaths was 32, or 7.2 per cent. Increased experience shows a marked reduction in the death rate. Thus, in the first 100, it was 18 per cent.; the second 100, it was 6 per cent; in the third 100, it was 5 per cent., and in the fourth 100, it was 3 per cent. The total number of deaths in the non-suppurating cases was 2, to 0.8 per cent. The percentage of deaths in the suppurating cases was 14.3 per cent. Late and hopeless cases accounted for this high death rate. An interesting fact in the death rate was the personal one in the after-treatment. Thus, in 198 patients who were looked after personally by me, the death rate was 3.6 per cent., while in 185 patients looked after by the attending physician, the death rate was 10.3 per cent., or nearly three times as great. The death rate in the cases of diffuse suppurative peritonitis was 10 per cent. I have collected from various hospital reports throughout the country 7,833 reports of operations for appendicitis. The death rate in the non-suppurating cases was 3.7 per cent., while the suppurating cases showed a death rate of 26 per cent. I am never obliged to reopen the abdomen for late symptoms or adhesions. I advise the removal of the appendix in all cases if it can be done in a reasonable time, depending on the conditions of the patient. I urge the use of absorbable suture material in all septic cases. I have used most of the technics recommended for the removal of the appendix, but have always returned to the cautery above the ligature and the purse-string suture. I insist that much mischief has been done by not draining septic cases. In these cases I have adopted the right lateral semiprone posture, in such a way that the opening in the abdomen is in the most dependent part of the peritoneal cavity. The drain can be brought out through the upper end of the incision, thus reducing to a minimum the danger of hernia, of which I have seen less than 1 per cent. in my cases, and this also does away with the stab incision in the loin. The position is kept up for twenty-four hours.

A New Point in Diagnosis Between Appendicitis and Tubal Diseases

Dr. Robert T. Morris, New York: Hypersensitiveness at the site of the right group of lumbar ganglia indicates that the appendix alone is the center of irritation. Hypersensitiveness of both right and left groups of lumbar ganglia indicates that some pelvic structure is the center of irritation. In cases in which there is a question if the appendix or some pelvic structure is causing local or reflex disturbance, we can commonly make a differential diagnosis at once by making deep pressure over the sites of both groups of lumbar ganglia, and noting whether these groups, or only the right group, are sensitive to an important degree.

Is the Routine Administration of the Preoperative Purge Defensible?

Dr. Edwin Walker, Evansville, Ind.: Purgatives can do harm and should be given only when the indications are clear. The profession should abandon the slipshod routine methods now in vogue, and should teach the laity, both by precept and example, the evils of the purgative habit. The practice of purging all patients before surgical operations is unnecessary and injurious; they are made more uncomfortable, are weakened, and the condition of the intestinal canal is not rendered more favorable, but, on the contrary, germ activity is stimulated, just as it is in enteritis, thus increasing the probability of infection when the gut is opened, and there is in addition to this more postoperative tympany. A diet of digestible food for twenty-four hours or more and a fast of eight or twelve hours before operation will put the intestine in the best possible condition for any operation, especially on the intestinal canal, except when obstructive lesions exist, and for these purgatives are worse than useless and other measures are required. In a few cases of milder fecal stasis a purgative several days before operation, followed by enemas, is of service. These cases, however, are extremely rare. The routine use of any powerful drug is to be deplored, and the habitual, preoperative purge is indefensible. The continuance of this practice indicates mental stasis of the surgical mind.

Cesarean Section, Abdominal and Vaginal, Compared and Contrasted

Dr. Miles F. Porter, Fort Wayne, Ind.: (1) With a living and viable child the abdominal is the operation of choice. (2) The vaginal operation is probably never indicated in placenta prævia. (3) In cases demanding quick delivery in which the only obstacle is an undiluted os, the vaginal operation should be done. (4) Infection should not decide us in favor of either operation, but the fact that its existence adds to the mortality of both should admonish us that neither is to be regarded an operation of *dernier ressort*. (5) With a dead or dying mother, and a living, viable child, the abdominal operation should be done. (6) Better knowledge of the indications for these operations and a timely resort to them will materially reduce both the maternal and fetal mortality and morbidity. Too little attention is paid to the life of the unborn child and too little to the morbidity of both child and mother. Obstetric procedures should be conducted with a view to perfect the recovery of the mother and the normal development of the child. The term, vaginal Cesarean section, is a misnomer. Owing to the contracted and badly lighted field, obscuration of the field by blood, difficulty of attaining and maintaining perfect asepsis and difficulty of delivering the child, the vaginal operation is the more difficult. The only obstacle to delivery which is removed by the vaginal operation is the cervix. The placenta is avoided by the vaginal operation except in cases of placenta prævia. The wound is nearer the ideal after the abdominal operation. There is greater likelihood of infection after the vaginal operation, but if infection occurs the danger would be greater after the abdominal operation. Patients are more likely to object to the abdominal operation. Previous infection increases the danger of both operations. Remote dangers, such as rupture of the uterus, are about equal and very slight in both operations. Abdominal operation offers the child the best chance, the maternal mortality is about 1.58 per cent. that of the vaginal varies from 0 to 6.5 per cent. The maternal morbidity is less after the abdominal operation.

Methods of Drainage in Abdominal and Pelvic Surgery

Dr. James F. Baldwin, Columbus, Ohio: In this paper I urge the more frequent resort to vaginal drainage in pelvic cases, in which pus is present, or extensive adhesions, and drainage through a stab incision in certain cases of appendicitis. I advise the use of gauze, not so much for real drainage as to keep the intestines from contact with raw or infected surfaces. The use of the word "fluffage" would be more appropriate than "drainage" in these cases for the purposes intended. The gauze is passed through an incision in the vaginal vault from above down, the opening in the vault being of ample size, and the gauze being then so placed as lightly to fill the pelvis. In this way the gauze keeps the intestines out of the pelvis and at the same time absorbs all discharges. The gauze is left in place one week and then withdrawn. Sterile douches are then used until the cavity thus left becomes obliterated. I have used this method for many years, and in a large number of cases, with satisfactory results, both immediate and remote.

How Can We Best Educate Women to Seek Relief Early from Carcinoma of the Uterus?

Dr. C. C. Frederick, Buffalo, N. Y.: The statistics of operations done for carcinoma of the uterus are much better from German clinics than in this country, not because Germany has more skilful operators but because the women are operated on earlier, having been taught to consult the surgeon early when they have symptoms of malignant disease of the uterus. I think there is a belief among general practitioners in this country that hysterectomy for carcinoma of the uterus is an unsuccessful operation, in so far as it prevents recurrence. Such has been the case and will continue to be so long as women so suffering are not operated on earlier than they have been in the past. Early radical operations give good results, and they ought progressively to give better and better results. Hysterectomy for carcinoma of the body of the uterus gives notably better results even in late cases than when the cervix is involved. Women should not only be taught that early operation gives better results, but also that the severity of the operation and the mortality and the morbidity are decreased thereby.

Phlegmasia Alba Dolens

Dr. William A. B. Sellman, Baltimore, reported a case of this nature in connection with an ovarian tumor. He presented photographs showing the size of the tumor, the amount of abdominal distention, and the swollen limb. He considers that the phlegmasia alba dolens in this case was due to pressure on the iliac vessels on the left side, and that this pressure was immediately relieved with removal of the tumor. The patient was fortunate in the rapid restoration of the circulation and in not having had a clot form, which might have destroyed life by the entire clot, or a portion passing to the heart.

Removal of Upper Portion of Rectum and Sigmoid

Dr. Thomas B. Noble, Indianapolis, related the case of a married woman, thirty-three years of age, in whom he extirpated the upper portion of the rectum and sigmoid for cancer. In connection with this case he showed an instrument which will be helpful in this class of cases. It is the result of a study and use of Murphy's button. It has some advantages, he asserted, over the button in this class of work, in that it can be introduced more quickly; it serves as a splint to the soft parts; admits of irrigation of the colon, and the prevention of impaction, and by continuous drainage keeps the bowel quiet, thereby favoring prompt and perfect union. He believes that it is a useful means to the ideal end, namely, an intact abdomen, intact intestine, and competent anal sphincters.

Malignant Tumor of Undescended Testicle

Dr. O. G. Pfaff, Indianapolis: The patient was a man of 38. Examination disclosed a tumor the size of a fetal head, occupying the left lower abdomen and pelvis. The tumor was freely movable within moderate limits, but was apparently attached by a pedicle to a point near the internal inguinal ring. The mass was diagnosed as a malignant tumor of the undescended left testicle, and three days later the man submitted to operation. Through an incision made to the left of the median line, the relationships of the mass were easily made out. The pedicle was attached at the internal ring, and there were some recent adhesions to the bladder, which were easily broken up, the pedicle ligated, and the mass removed. The man made an uneventful recovery from the operation, but within five months died of malignant disease. I did not see him after he left the hospital, and did not learn the location of the later growth, other than that it seemed to affect both the bladder and the bowels. The microscopic examination of the growth showed it to be a large round-celled sarcoma.

Terminal Events in Gall-Stone Disease

DR. CHARLES N. SMITH, Toledo, Ohio: That gall-stone disease is extremely prevalent, afflicting from 7 to 10 per cent. of adults dying in the public hospitals of England, Germany and America, is a contention apparently substantiated by the records of thousands of post-mortem examinations. Rupture of the suppurating gall-bladder into the general peritoneal cavity is by no means an unusual terminal event, having occurred five times in my own experience. Of these five patients, four made a complete recovery after operation, while in the remaining case, a desperate and delayed one, with widespread peritonitis, the patient died on the table as the abdominal incision was completed. From observation of these and other cases, and from a study of the literature, I am convinced that the frequency with which rupture of the gall-bladder occurs as a terminal event in gall-stone disease is scarcely appreciated. These cases are commonly diagnosed as peritoneal infection from appendicitis, operation done on this diagnosis and the case so recorded unless gall-stones, correcting the diagnosis, are found in the peritoneal cavity. One of my patients, a few months before coming to me, had been operated on for a supposed appendicitis and the appendix removed. When a gauze drain was being removed, following the operation, a gall-stone escaped from the cavity and others were expelled at subsequent intervals. Pus was discharging from the incision when the patient consulted me, and several gall-stones were removed from the sinus by the scoop. The gall-bladder, containing one immense stone, and a number of small ones, was removed and recovery followed. Two other patients were brought for operation with a diagnosis of appendicitis, because of pain, tenderness, and swelling in the right half of the abdomen. Correction of the diagnosis prior to operation was not difficult. Free incision, removal of gall-stones, cleansing of the cavity, abundant drainage, with the patient in the Fowler position, were followed by slow but eventful recovery. Of the many terminal events of gall-stone disease, malignancy is without question the most hopeless from the standpoint of cure. That primary malignant disease of the gall-bladder and ducts is preceded by gall-stones in practically every instance, is the experience of surgeons and pathologists. It would seem that a due appreciation of the frequent occurrence and the serious import of these complications must lead to the surgical removal of gall-stones as a conservative and prophylactic measure, long before the opportunity is given for the onset of these terminal events. That this may be done will require a more general recognition of the initial symptoms of gall-stone disease, with diagnosis based thereon, rather than on the symptoms produced by these same terminal events.

DISCUSSION

DR. MILES F. PORTER, Fort Wayne, Ind.: I wish to emphasize the author's statements regarding the relative frequency of the terminal events of gall-stone disease and the consequent importance of operating on patients with gall-stones before these more serious end-results occur. I was interested in Dr. Smith's remarks on posterior gastroenterostomy in cases in which the pylorus is obstructed because of adhesions about it, or the gut below, or because, on the other hand, of adhesions that are hard to break up which hang the pyloric orifice up under the liver. This has occurred a number of times, and in some of the cases the separation of the adhesions has not only been difficult, but accompanied by considerable trauma of the liver, and it is not unattended by danger. In many cases after these adhesions have been liberated there is a still greater difficulty to overcome, namely, their reposition as they were before, and I am therefore impressed with the fact that many of these can be better treated by posterior gastroenterostomy, in so far as the relief of this feature is concerned. I rarely do a cholecystectomy; it seems to me that the gall-bladder should be preserved as long as it is functionating and communicates with the liver.

DR. THOMAS B. NOBLE, Indianapolis: I wish to refer to that condition in which by pericholecystitis we have changes occurring in the stomach due to engorgement by the inflammatory exudate on the pyloric area. In such conditions we will have gastric neuroses, as well as true anatomic disturbances following. Dr. Smith has advised gastroenterostomy in such conditions. I prefer the Finney operation. I do not favor establishing an artificial opening between the intestine and stomach unless every other procedure fails; but the Finney operation maintains the normal route, makes drainage free and perfect, and in the five cases in which I have practiced it I have had satisfactory results.

Phases of Puerperal Sepsis

DR. HUGO O. PANTZER, Indianapolis: The morbidity and mortality attending obstetrics in private homes as contrasted with the results obtained where confinements have occurred in hospitals, should be a convincing argument in favor of the latter practice. The dislike of midwifery by medical men who seek to limit their practice to a specialty, and the displeasure with which the general practitioner attends obstetric cases have deprived this branch of medicine of the growth and efficiency characterizing other branches of medicine. The acme of the present hospital movements will not have been reached until each community has ample hospital provision for its maternity cases. With the public won over to this innovation, it may be hoped that the old-time natural and happy union of obstetrics and gynecology in one specialty, as still generally maintained in old countries, may again become established with us. Without a specialist in obstetrics in most fields, the practitioner in time of need is driven to accept the service of a man no more skilled than himself. The gynecologist, who avowedly has discarded obstetrics, reasonably enough is called on in these emergencies in few cases and then often too late to give effective succor. This unfortunate situation demands relief. Review of recent literature shows that fuller recognition is taken of the differential pathology of parturient patients, and that skepticism of therapy, at times bordering on nihilism, is the dominant note. The routine treatment of various measures, such as curettement, antiseptic douches, etc., is receiving equally wholesale condemnation by some writers. Interesting statistics show conclusively that a let-alone policy is far superior to the indiscriminate medical and surgical practices of a recent past. Serology is not yet of much practical use, and surgery is indicated in comparatively few cases.

Other Papers Read

"Operative Enlargement of the Pelvis of the Non-Pregnant Woman," by Dr. John N. Bell, Detroit; "Artificial Anus Following Operation for Intussusception," by Dr. John Young Brown, St. Louis; "Gilliam Operation for Retrodisplacements of the Uterus," by Dr. W. H. Humiston, Cleveland.

SIXTEENTH INTERNATIONAL MEDICAL CONGRESS

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(Concluded from page 1228)

Total Extirpation of the Bladder

PROFESSOR VERHOOGEN and DR. DE GRAEUWE, Brussels, Belgium: Total cystectomy has been followed by a death rate of 31 in 59 cases collected from literature—i.e., a mortality percentage of 53.4. This serious result of surgical intervention does not depend directly on the removal of the bladder, for it is a simple operation. The danger results from the difficulty of ensuing the free escape of the urine coming from the kidneys and of preventing their infection. It is still more difficult because the ureters are generally already distended and the kidneys affected before operation. The methods which have given the most serious results are those in which the ureters have opened on to the skin (30 per cent.) or left free in the wound (13 per cent.). When one or both of the ureters have been carried into the bowel the death rate becomes formidable (66 per cent.), even when precautions have been taken to have a valve at the ureteral orifice, or to exclude the portion of bowel into which the ureters open. The advantages of the two methods can be combined by performing first a double nephrostomy and then a cystectomy with ureterostomy into the excluded cecum. If the ureterostomy works well, the renal fistulas may be allowed to close. Total cystectomy is indicated: (1) malignant tumors of the neck of the bladder or in the neighborhood of the ureteral openings; (2) malignant tumors elsewhere in the bladder too extensive for a partial operation; (3) recurrent malignant growths; (4) papillomata too numerous to be removed in any other way; and (5) involvement of the bladder to a great extent by neighboring malignant growth.

Results of the Treatment of Exstrophy of the Bladder

Dr. É. Ester, Montpellier, France: Among the harmful results caused by exstrophy of the bladder, three are of especial importance; they are incontinence of urine due to the absence of a sphincter, pain, and suppuration resulting from chronic inflammation of the mucous membrane of the bladder exposed as it is to many irritating and infective causes. The best treatment is that which deals with these especially: (1) None of the methods employed gives an entirely satisfactory result; (2) the methods which aim at a plastic restoration of the bladder or the suture of its edges should be abandoned because they do not cure the incontinence of urine; (3) among the many methods of derivation of the course of the urine there are two which give good results, and which prevent incontinence, these are Maydl's method and Soubbotine's method; and (4) the cases reported are not sufficiently numerous to enable a decided opinion to be given as to which is the better. Nevertheless, the following opinions may be expressed: (1) Soubbotine's method protects more thoroughly against ascending infection than does Maydl's method; (2) from the point of view of technic Soubbotine's method, because of its complexity and the length of the treatment is inferior to Maydl's method; and (3) to appreciate the results obtained by these two methods it is necessary to follow up the cases for a number of years, for it might happen that the anal sphincter might be sufficient to retain the urine at first, but later it might allow a certain amount of incontinence.

The Affections of the Urinary Tract by Colon Bacilli

Dr. Thorkild Rovsing, Copenhagen: In most cases the *Bacillus coli* reaches the urinary organs by way of the bloodstream, and the bacilli give rise to a diffuse nephritis, generally slight but occasionally acute. Often the nephritis gets well rapidly and only a bacteria remains. Frequently the bacilli are introduced into the urinary passages by instruments, or they may wander in owing to a paralysis of the sphincter, but this can never occur if the sphincter is efficient. Occasionally infection occurs from the spreading of inflammation from neighboring organs. Since 1897, I have treated 285 cases of *Bacillus coli* infection of the urinary passages. In 180, the disease arose as an acute nephritis or pyelitis in patients who had never been catheterized. Some of the starting points were tonsillitis, cholecystitis, acute enteritis, appendicitis, colitis, cancer of the colon, and typhoid. Clinically, the hematogenous nephritis frequently commenced with febrile symptoms and hematuria. The blood soon disappears from the urine but albuminuria remained, often with pus and casts. Many miliary abscesses may be present in the kidney, and microscopically there can be seen minute centers of inflammation caused by bacillary emboli. Pyelitis and pyelonephritis may be temporary or chronic; when chronic they are chiefly associated with calculous pyelitis. Cystitis is the rarest manifestation of infection by the colon bacillus, for it does not possess the power of attaching the intact mucous membrane of the bladder. In treatment operative interference is never necessary in uncomplicated infection by the *Bacillus coli*, but if complications are present which hinder recovery operation may be necessary; for instance, if calculi and stricture of the ureter are present. The rational treatment of uncomplicated *Bacillus coli* infection is by flushing out the urinary passages by a free stream of fluid. This can be done by leaving a catheter in the bladder and giving the patient three or four liters of distilled water to drink in the 24 hours. Salol, 1 grain three times a day, is useful. When the urine has become free from bacteria 20 c.c. of a 1 per cent. solution of nitrate of silver are injected into the bladder and the catheter is withdrawn. There is no object in washing out the renal pelvis through a ureteral catheter.

Indications for the Operative Treatment of Secondary Suppurative Labyrinthitis and Method of Treatment

Dr. E. Schmiegelow, Cophenhagen: The paper is based on the observed results of 42 cases of labyrinthitis following purulent conditions of the middle ear. In ten cases the labyrinthitis was either of the partial circumscribed or else of the serous type, and the patients all recovered after opening and emptying the cavity of the middle ear. The remaining 32 cases consisted of diffuse purulent conditions of the labyrinth with complete deafness. An operation on the labyrinth itself was not indicated in all the cases of secondary lesions of the labyrinth; the indications for this operation were not derived solely from the results of functional exploration, but also from the progress of the illness and the direct examination of the wall of the labyrinth after the radical operation. The treatment of secondary labyrinthitis consisted sometimes in efficient prophylaxis and sometimes on making an opening into the cavity of the labyrinth. The labyrinth may be opened in various ways. The method recommended by Jansen and Neumann ought not to be the principal one. This operation is deep and difficult, and is only justifiable when there is reason to suppose that in addition to the disease of the labyrinth there is suppuration in the posterior cranial fossa. The labyrinth may be opened with a drill (*fraise*), but the chisel and hammer are safer and enable the direction to be judged better. The method suggested by Uffenorde avoids accidental injuries to the facial nerve, which is exposed by carefully opening the aqueduct of Fallopius, and after this the semicircular canal, the vestibule, and the cochlea are opened. In this manner the facial nerve can be preserved during the complete removal of the labyrinth. At the end of the operation the nerve can be seen descending freely through the cavity which is left. In 22 of the 32 cases of purulent diffuse labyrinthitis the treatment consisted only in performing the radical operation on the middle ear. Of these 22 patients 2 died from complications existing previously to the operation. Of the remaining 20 patients 2 died, while 13 (i.e., 65 per cent.) recovered.

Infantile Types of the Temporal Bone and Their Surgical Importance

Mr. Arthur H. Cheatle, London, Eng.: By infantile type is meant the persistence in an exaggerated degree throughout life of the anatomic conditions of the outer wall of the antrum and mastoid mass as seen in infancy. In the adult the mastoid mass is generally diploetic but very rarely dense; the outer wall of the antrum is always dense and thick and lined internally by the cells which form before birth ("fetal cells"), and a layer of dense bone separates the cavity of the antrum from the mastoid mass. The types are found in about 20 per cent. of normal bones. The lateral sinus is usually forward. The density of the outer antral wall so frequently found in chronic suppuration in the antrum is a factor in producing chronic suppuration and is not an osteosclerosis.

Nasal Asthma

Dr. M. Grossmann, Vienna: Experimental researches undertaken in the hope of explaining the phenomena of nasal asthma have shown that electrical or mechanical irritation of the nasal mucous membrane leads to a notable disturbance of the cardiac function, followed by a considerable engorgement of blood in the pulmonary circulation and by an increase in the external dimensions of the lung. In curarized animals this increased volume of the lung causes a rise of pressure in the intrathoracic space and a depression of the diaphragm. This effect of nasal irritation is absent if either the second branch of the trigeminus nerve or the two vagus nerves are previously divided. There is, therefore, reflex action in a curved path the centripetal portion of which is formed by the vagus. This enlargement of the lung is not caused exclusively by the accumulation of blood, but also by the fact that the pulmonary capacity—i.e., the available pulmonary area—is increased in direct proportion to the engorgement with blood. The lung becomes larger not only as regards its external dimensions, but also as regards its intrapulmonary capacity. In accordance, herewith, the intrapulmonary pressure, unlike the pressure in the intrathoracic space, falls when the pulmonary circulation is engorged with blood. This enlargement of the lung is accompanied by rigidity which seriously interferes with respiration.

Treatment of Chronic Glaucoma

Dr. Felix Lagrange, Bordeaux, France, reviewed all the means, medical, surgical, and operative, which have been employed in the treatment of glaucoma, and laid particular stress on operations designed for lessening ocular tension. He dealt with iridectomy and sclerotomy as well as section of the sympathetic, and gave it as his opinion that all the intraocular operations only succeeded imperfectly in attaining the object of the perfect operation—namely, a fistulous or filtration cicatrix by which evacuation can be effected when the tension is too high. He described his operation for this end in precise terms. It consists essentially in a sclerectomy made at the level of the canal of Schlemm, and comprising all the thickness of the sclerotic. The incision should be made in such a way as to cut the insertion of the ciliary muscle, by which means the choroidal space will be brought into communication with the anterior chamber. The section of the sclerotic opens a free passage for the intraocular fluids, which can thus drain out under the conjunctiva. Dr. Lagrange added that in eyes with permanently increased tension sclerotomy should be followed by an iridectomy in order to avoid the inclusion of the iris. In cases of simple chronic glaucoma in which the increase in tension is intermittent or very slight, simple sclerotomy should suffice to produce an effective filtration cicatrix.

Postoperative Inflammations of the Eye Caused or Prompted by Autoinfection

Dr. Angelucci, Naples: It is an axiom of the present time that autointoxication and autoinfection are able to initiate inflammatory processes in the eye. Morbid conditions, often obscure and sometimes inappreciable to the patient, may cause postoperative inflammation in the eye. 1. Diseases of metabolism—(a) Albuminuria: Sclerosis of the renal vessels in old people and the arthritic kidney, accompanied by a slight excretion of albumin, have no deleterious effect on the postoperative course in cataract extraction. In Bright's disease iritis occurs almost always, sometimes after simple iridectomy, especially if the disease is advanced. (b) Diabetes: Cataract extraction may be free from inflammatory complications and consecutive hemorrhage in diabetics of good constitution. In the late dystrophic stages, usually associated with albuminuria, even if the sugar excreted in the urine shows diminution in quantity untoward results are to be anticipated. (c) Gout: This disease affords no contraindication to cataract extraction. Gouty attacks occurring during the period of convalescence do not appear to exercise any malign influence. When gout is accompanied by constipation or other disturbances of the intestinal tract there is not the same immunity from inflammation. 2. Diseases of the mouth.—In these cases iritis is common after extraction of cataract and may eventuate in suppuration. 3. Affections of the gastrointestinal tract.—Constipation and disorders of digestion are a potent cause of postoperative iritis. It occurs from the fourth to the eighth day and is ushered in by increased conjunctival secretion, often affecting both eyes. 4. Diseases of the bladder.—Two cases of iritis in iridectomy were associated with chronic vesical catarrh in spite of minute precautionary measures. Extraction of cataract has been followed by hyperemia of the iris although serotherapy was employed. 5. Influenza.—A case of cataract extraction during an attack of influenza resulted in the loss of eye from panophthalmitis. 6. Furunculosis and abscesses.—Hypopyon ulcer supervened on an iridectomy in a patient with boils, and the eye was lost from panophthalmitis in an old man who had an abscess and was operated on for cataract.

Prevention of Infection in Operations on the Eyeball

Dr. Elschnig, Prague, Bohemia: Investigations have led to the conclusion that in spite of careful antiseptic or aseptic precautions postoperative infection originates exclusively in the conjunctival sac, with the sole exception of rare endogenous infections. In all cases, therefore, in which the globe is to be opened the bacteria of the conjunctival sac should be examined and operation undertaken only if pathogenic organisms, especially streptococci and pneumococci, are absent. The most reliable methods are by culture experiments on both solid and fluid media, such as serum bouillon and serum agar plates. The use of pyocyanase and perhaps mercury oxycyanate is most to be recommended for the elimination of pathogenic organisms. Immunization procedures and even disinfection of the field of operation have little or no value, but general infection and disease of other organs must be treated. When infection of the conjunctival sac is suspected, the greatest care must be exercised as to the exact mode of operative procedure. All wounds should be situated in the conjunctival area, and wounds of the sclerotic with scissors—e.g., subconjunctival cataract extraction—should be avoided.

Eye Symptoms in Disease of the Pituitary Body and Acromegaly

Dr. W. Uhthoff, Breslau, Prussia: Cases of hypophyseal tumors with and without acromegaly were distinguished for purposes of differential diagnosis. The results given are founded on 328 necropsies. Temporal hemianopia is the most constant symptom; typical choked disc and slight papillitis each occurred in about 5 per cent. of the cases, simple atrophic pallor of the discs in 20 per cent. and central scotoma only in occasional cases. Paralysis of ocular muscles, generally affecting the oculomotor nerve, occurred in 10 per cent. of cases, and nystagmus in 6 per cent.

Sanitary and Hygienic Organization of Armies, with Especial Relation to the Spanish Army

Dr. Larra y Cerezo, Madrid, Spain: Each division of the Spanish army will take into the field a complete hospital with every necessary appliance for 200 beds, distributed among 16 tented-wagons. As a complement to this hospital installation the division is further equipped with 4 wagons, each containing surgical and medical appliances, each with 300 dressings, and the pharmaceutical necessities and material for clinical investigation in the hospital; 4 wagons of appliances, a food-supply wagon, which provides food for the hospital of 200 cases for six days; and 24 ambulance wagons. These units correspond to the divisional field ambulance and the divisional hospital. The latter has also at its disposal a disinfecting stove, bath, apparatus for sterilization by heat and by ozone, a reservoir wagon of water with a filter, and another for chemical and bacteriologic analysis and for radiographic investigation. In the regiments the material for sanitary service include the following sealed patterns: (1) A first field dressing for each man; (2) an emergency knapsack for each company; (3) a medical saddle-bag or wallet, for each squadron or battery; (4) a medical haversack; (5) a medical chest per battalion; (6) a reserve chest for each battalion; (7) a medical vehicle for each battalion; (8) a case of surgical instruments (9) a case of amputation instruments for mounted corps; (10) a service stretcher; (11) a Swedish chair; (12) an ordinary litter. Each army corps has a hospital train. Spain has three large establishments to provide the raw material, and sealed patterns of material, including vaccines, prophylactic and therapeutic serums, drugs, etc. These establishments are: The *Military Health Park*, the Central Medical Laboratory, and the Institute of Military Hygiene. All the sanitary units assigned to each division in time of war are calculated to provide the division with about 46,000 to 49,000 dressings—that is, 3 per head, 1 first field dressing, and 2 for secondary treatment.

Intestinal Parasites in the Tropics

DR. DEBAYLE, Nicaragua, dwelt on the extreme frequency of diseases due to such parasites in tropical countries, particularly the ankylostoma, the *Ascaris lumbricoides*, the *Trichocephalus dispar* (the serious effects of which are often not sufficiently recognized), and the various forms of tenia. The symptoms are protean in their character, they result from a severe toxemia; the hemolytic effect of the toxins was specially dwelt on. There is the real need for energetic measures in destroying these parasites; the people must be educated, an active propaganda is essential.

Epidemics of Dysentery in the Mussulman Pilgrimage

DR. ARMAUD RUFFER, president of the Maritime, Sanitary, and Quarantine Board of Alexandria: At the Egyptian lazaret of El Tor from 400 to 600 individuals with dysentery are treated each year among the returning pilgrims, and of these some 150 die. As the pilgrims at El Tor represent only a portion of the whole number, it is evident that the deaths from dysentery during these pilgrimages must be enormous—perhaps from 3,000 to 15,000 per annum. It is unfortunate that the same attention has not been paid to this disease by the European powers as to plague, or cholera, or yellow fever; the international sanitary conventions deal only with the latter diseases. There are two main forms of dysentery, the amebic and the bacillary, and not infrequently a mixed infection is encountered. From observations made at El Tor conjointly with Dr. Zirolia, it was found that the majority of the patients gave no serum reaction with the Shiga-Kruse bacillus; in fact, only 2 per cent. of the whole gave such reaction. In some of the cases the Flexner organism was present, in others the pseudodysenteric bacilli, A and D, of Kruse, were found. Each of these organisms was absolutely distinct, and gave reaction specific to itself but not to the others. In a number of patients another bacillus was found, to which the name of the Tor bacillus, No. 1, has been provisionally given. All these organisms presented the general characteristics of the pseudodysenteric bacillus D of Kruse, but their serum reaction was entirely different; they agglutinated neither that nor any other of the above-named bacilli. Briefly, the forms of dysentery encountered in the pilgrims are due to at least nine different micro-organisms, and at least six bacilli are more or less clearly and distinctly differentiated. In cases due to the Shiga-Kruse bacillus most excellent results have been obtained by serotherapy; indeed, in few other diseases are the results of serotherapy so brilliant. In the Tor cases there was practically no effect, which is further evidence that they are due to some other micro-organism.

Yellow Fever Prophylaxis in Cuba

PROFESSOR AGRAMONTE, Havana: The topography and geographical position of Cuba and its large, non-immune population render it, if not less liable to invasion by the disease, at least more favorable to its extinction than some other regions. In 1901 the infection completely disappeared, as the result of a campaign based on the doctrine of mosquito transmission, and carried out by Colonel Gorgas. Between February, 1901, and October, 1905, only a few cases of the disease, imported from Mexico or South America, occurred and none of these gave rise to secondary cases. In May, 1902, the republic was inaugurated; the flow of immigration, especially from Spain, increased twofold, and the new railroad brought one end of the island into rapid communication with the other. New towns were established and trade and industrial enterprise increased proportionally. Three unfavorable results followed: An unwarranted sense of security was brought about, the non-immune population was increased, and the *stegomyia* mosquito was spread from the coast to the interior, where it did not exist before. Consequently, the yellow fever epidemic of New Orleans in 1905 crept into Cuba in October of that year, and from that time till Dec. 24, 1908, 405 cases of the disease developed in the island. None has occurred since. The measures employed to deal with this outbreak were indirect and direct. Quarantine appears to be of small value in the prevention of yellow fever, if the certificates of immunity presented by passengers be relied on. In 1905 close quarantine was in force against the southern states of America, and yet the infection, which was waning in New Orleans, entered the island. An absolutely closed quarantine might be effective, but it would cause great inconvenience to commerce and to travelers. The isolated and complete defense against mosquitoes of all imported cases, on the other hand, are effective, as shown by the occurrence of more than 30 imported cases from Mexico and the United States, without any secondary cases developing. The patients were all isolated in the Las Animas Hospital, where the most minute precautions are taken to prevent the spread of infection by mosquitoes. Every hospital in the island is provided with yellow fever wards. A system of registration of non-immunes has also been most useful. Some 60,000 men are registered as members of various five specially equipped hospitals. These 60,000 men are under Spanish clubs or societies in Havana; and for these there are special sanitary control, and any suspicious illness among them is at once dealt with. As the total number of white foreigners in Havana is 74,000, it will be seen how valuable a measure this is. Similar societies exist in other towns. Spanish immigrants rarely fail to inscribe their names with one or other society. A large staff of sanitary commissioners has been formed, and these investigate any suspicious case in any part of the island. Among the direct measures in the control of yellow fever one of the most important has been a house-to-house inspection carried out by trained men every ten days. The removal of breeding-places for mosquitoes, the oiling of pools and other collections of water and the provision of metallic gauze coverings to water-tanks and barrels, have been extensively carried out. Another useful measure has been the free distribution of fish to be put into such barrels and tanks in order to destroy the larvæ. Fresh supplies of fish are furnished as required. The destruction of mosquitoes by fumigation or other means is also extensively applied.

Etiology and Prophylaxis of Bacterial Dysentery

DR. GALLI-VALERIO, Lausanne, Switzerland: The disease is caused not by one bacillus but by many bacilli belonging to the Shiga group of such organisms. The terms paradysentery and pseudodysentery should not be used, as they tend to cause neglect of measures of prophylaxis. The disease is spread mainly: (1) by personal contagion either from sick persons or from healthy "carriers" of the bacilli, and either directly or through fomites; (2) by water, which plays a most important rôle in the spread of the disease; (3) by means of flies, as proved by experiments; (4) by milk, which may be infected by flies or by the addition of infected water, or the washing of vessels with such water; (5) by vegetables, for similar reasons; (6) by the soil and dust. The main prophylactic measures recommended are grouped under the following headings: (1) as rapid as possible a diagnosis of the first cases; (2) compulsory notification of all cases; (3) strict isolation of the sick; (4) disinfection of the excreta, of linen and other fomites, and of the room occupied by the sick. Immediate and compulsory notification, at present in force in few countries, is an absolute necessity. Thorough sanitation is also, of course, of prime necessity; and finally, the public must be actively educated in the need of strict measures. Vaccination has hitherto given uncertain results.

Pathology of Secretion and Motility of the Intestinal Canal

DR. A. BICKEL, Berlin: Disturbances of the glandular activity in the intestine can be either quantitative or qualitative in their effects, the former depending on alterations in the production of the secretions, and the latter on their composition. The disturbances may therefore be distinguished respectively as parenchymatous or neurogenous. In the first named the morbid process affects the gland cells or the surrounding tissues; in the second form the nervous mechanism of the gastro-intestinal tract is the seat of the disturbance. Further, the alterations in the secretion of mucous must be distinguished from that of the secretion of the digestive juices. With regard to the former an excessive secretion only is of importance; this is due to some fault in the parenchyma; the nervous supply may also have an influence through a less powerful one.

Medicolegal

Power of School Boards to Enact and Enforce Rules to Prevent Appearance of Smallpox in Schools and Especially Requiring External Vaccination

The Supreme Court of Missouri says, in the case of State, on the relation of O'Bannon vs. Cole and others constituting the School Board of Sedalia (119 S. W. R. 424) that the board, on Dec. 4, 1908, made an order that it had come to the knowledge of the board that smallpox existed within the school district, the board deemed it necessary that all children attending school, who had not been vaccinated, must be vaccinated within 30 days. On Jan. 8, 1909, the board adopted the following additional resolution: The board will not accept a certificate of vaccination unless the physician does state that the child has been vaccinated with vaccine virus, and all children who have had smallpox must bring a certificate from the physician in attendance to that effect; and, where such certificate can not be procured, then the parent or guardian must make affidavit that such child has had the smallpox, etc. The records of the board showed a called meeting held on January 12 for the purpose of taking further action on the question of vaccination, the president stating that he had been informed that certain physicians had been vaccinating school children by giving powders internally and giving them certificates that they had been vaccinated internally with vaccine virus. A physician present asked to be heard on the subject and stated that such treatment would render the patient immune from smallpox. A resolution was then passed: That no certificate of vaccination shall be received unless the same states that the person was vaccinated externally with vaccine virus.

O'Bannon's two children were excluded from the schools of the district in January, 1909, under the above rules, and because they had not been vaccinated as required by the rules. Then this suit was brought. The trial court granted the writ desired, and declared said rules void. The Supreme Court holds that such judgment was erroneous, and reverses it.

The Supreme Court agrees with the board of directors that under the general statutory provisions they had the inherent right to promulgate and enforce the orders and rules in question. The precise question, the court says, has never before been before it, but has been before the St. Louis Court of Appeals in the case of the matter of the application of Rebenack for a writ of mandamus against the board of education of the city of St. Louis, 62 Mo. App. 8, which has been cited with approval in Indiana, Massachusetts, Minnesota, North Carolina and Utah cases.

The Supreme Court has no doubt that, in the event of a threatened epidemic of smallpox, boards of school directors can pass a rule excluding all pupils who have not been vaccinated. That a person who has never been vaccinated is subject to the contagion of smallpox is general knowledge. That vaccination has reduced the ravages of this disease is also general knowledge. That the appearance of unvaccinated pupils in a public school at a time of a smallpox epidemic would tend to break up and disorganize a public school is unquestioned. That the school board has the power to absolutely suspend the school during epidemics of contagious or infectious diseases, the court thinks can hardly be questioned. No court would compel the opening of a school under such circumstances. The power here exercised was a very similar power, and, if these rules were reasonable, this court sees no reason why their enforcement should be prohibited.

The Illinois rule does not go to the extent of holding that a board of education, in case of a threatened smallpox epidemic, could not exclude pupils who had not been vaccinated.

The courts may be somewhat divided on the question as to whether or not vaccination, under all conditions and at all times, may be made a condition precedent to a child attending a public school; but the courts are practically a unit in holding that in the event of a present or threatened epidemic, such rules are reasonable and should be upheld by the courts. And such has been the rule in states where there is no express authority requiring vaccination. Many states have passed laws requiring vaccination of pupils before entering schools, and these have been generally upheld, and that, too, in the face of statutory and constitutional provisions making such schools open to all pupils within the required ages.

This court will not go further on this branch of the case. Nor will it go beyond the case in question. For years there had been smallpox in Sedalia. Within two weeks of the trial in the lower court there were yet cases there. At the promulgation of the rules in question, there were a number of cases, so there was not only a threatened epidemic of the disease, but an epidemic itself. This court is of opinion that school boards in Missouri, in the event of a smallpox epidemic, or a threatened smallpox epidemic, have the right to enforce such rules as were enforced in this case, unless they are precluded therefrom by other statutes now to be considered.

It was contended that, by reason of the compulsory school act, the rules in question would enforce this parent to violate that law, and that under that law the rules enforced by the school board were void. That act, however, in no way affects these rules. In the first place, there can be no prosecution of a parent for failing to send his child to school under that act until after an officer of the school district has notified him to send such child, and then, if he fails, a prosecution can be had. This parent was in no danger of violating that law. The act makes it a misdemeanor to violate its provisions, and this court has yet to hear of a criminal case wherein a defendant was convicted of willfully violating a law, when in fact he has manifested the disposition that this parent had to comply with the strict letter of the law; but, laying aside all levity, the act of the school board, whose officer must initiate the prosecution by giving notice, would be an absolute defense. Beyond all this, the compulsory school act must be construed with the whole body of the school law, and when so construed, it can be made to harmonize therewith to the end that there would be no violation of the law. The court is of the opinion that there is no real conflict between rules of the character involved in this case and the compulsory school act.

But Section 9765 of the Revised Statutes of Missouri of 1899 was chiefly relied on as the battering ram by which these rules of the school board were to be demolished. An analysis of that section shows: (1) It prohibits a child afflicted with a contagious or infectious disease, or one exposed to such a disease and liable to transmit the same, from attending a public school; (2) for determining either its diseased or exposed condition, either the teacher or school board may require the child to be examined by a physician; (3) such child may be excluded so long as there is danger of transmitting such disease; (4) a refusal on the part of the parent or guardian to permit such child to be examined authorizes the exclusion of such child from the school; and (5) if the parent or guardian shall persist in sending such child to the school, such act is made a misdemeanor and a punishment is affixed. This analysis of the section shows that it is dealing wholly with a case where a child is actually diseased, or has been exposed to a disease of the character named. The statute does not undertake to abrogate the general power to control the school given to the board of directors, nor does it undertake to deal with the subject of needful rules. One main purpose of this Section 9765 is to provide a punishment for that class of either careless or persistent parents who are willing to inflict on others the diseases and troubles of their own children. The first part of the statute, as said, deals with a concrete case of a diseased or exposed child; but by no maxim, or other rule of construction, can this court see how it can be said that in the enactment of that statute there was a legislative intent to preclude a school board from enacting reasonable rules to prevent the appearance of contagious or infectious diseases in the schoolroom. The rules in question in this case were enacted to prevent the appearance of disease in the school. This the school board can do, so long as its rules are reasonable, under the general power.

This court is, therefore of the opinion that the school boards of Missouri have the right to enact and enforce rules of the character here in question at all times whenever there is either a smallpox epidemic in the district or whenever there is a threatened smallpox epidemic. The very purpose of such regulations might be thwarted were the epidemic itself to be actually awaited.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

September 30

1 *A Practical Diet Chart. H. D. Arnold, Boston.
2 Nasal and Nasopharyngeal Conditions as Causative Factors in Middle-Ear Disease. G. A. Leland, Boston.
3 Diagnosis of Phthisis and Its Association with Certain Simulating Diseases. C. Floyd and W. W. Barker, Boston.
4 *Distinction Between the Psychoneuroses not Always Necessary. G. L. Walton, Boston.
5 *The Ocular Tuberculin Reaction. F. P. McCarthy, Ancon, Canal Zone.
6 *Modification of the Thomas Wrench for the Treatment of Rigid Valgus. R. O. Meisenbach, Buffalo, N. Y.

1. **Practical Diet Charts.**—In the preparation of these charts Arnold has aimed to give on one sheet of paper all the data necessary for arranging and calculating the nutritive value of a diet, and to furnish a convenient means of recording the results. The feature which makes these charts practical for use is the information given as to the nutritive value of food in measures such as are used in everyday life. A fairly accurate record may thus be obtained with very little inconvenience to the patient. The tables give the composition of ordinary articles of food. The values are approximate only, but are sufficiently accurate for practical use. The tables are based chiefly on Atwater and Bryant's statistics. Arnold shows that scientific work in connection with the diet must be based on the caloric value of foods, and the amount of each of the three ingredients (protein, fats and carbohydrates) contained in the food. The quantitative regulation of food is as important as its qualitative regulation. These charts give all the data needed in the practical regulation of the diet in such a form that calculations can readily be made and the results can be conveniently recorded.

4. Abstracted in The Journal, July 24, 1909, p. 317.

5. **Ocular Tuberculin Reaction.**—In a series of cases at the Colon Hospital in which the ocular reaction was tried by McCarthy, the test was applied to various diseases besides tuberculosis. Two hundred and sixty-three cases were tested, and the results have been satisfactory as compared with the reports of other observers. Sixty-four cases of pulmonary tuberculosis were tested, with 54 positive reactions and 10 negative. In the first stage of the disease 22 cases were tested and all were positive, 100 per cent. In the second stage, 12 were tested, with 11 positive and 1 negative reaction. In the third stage, 30 were tested, with 21 positive and 9 negative reactions. Forty-five patients had positive sputa. Fifteen patients had negative sputa, and 4 raised no sputum. Of 3 cases of miliary tuberculosis tested, 2 gave positive reactions and 1 negative. Of 20 cases of clinically suspicious tuberculosis, 12 gave positive reactions, with 8 negative ones. Most of these patients had suspicious physical signs in the chest, some had slight rise of temperature, emaciation, night-sweats and cough. In 25 patients not considered tuberculous, but with obscure temperatures and no signs of tuberculosis clinically present, 21 were negative and 4 positive to the test. Of 8 cases of acute bronchitis and 6 of chronic bronchitis, no positive reactions occurred. Of 9 patients with pleurisy with effusion and 7 with pleuritis sicca, 1 of each failed to react, showing 14 positive reactions out of 16 cases. There was 1 positive reaction in 3 cases of bronchial asthma tested; 2 cases of pneumothorax reacted positively. Fourteen cases of lobar pneumonia were tested, 4 of which were unresolved; negative results were obtained in every case. One case of bronchopneumonia in an old man gave a positive reaction, although the sputum was negative. In 16 cases of malarial fever, all complicated with bronchitis, amebiasis, uncinariasis and other conditions, 14 patients failed to react, with 1 positive result. Of 19 cases of typhoid fever, 8 gave positive reactions and 11 negative. Of the 8 positive cases there were 3 blood cultures taken, all showing the *Bacillus typhosus;* in the other 5 no blood cultures were taken. In the 11 negative cases of typhoid, all had blood cultures, 3 showing the paratyphoid bacillus, 3 the para-colon bacillus, 1 the *Bacillus typhosus* and 3 bacilli in the typhoid group. In 4 cases of tuberculous bone disease, 2 of Pott's disease, 1 each of tuberculous knee and tuberculous elbow, there were four positive reactions. Of 3 cases diagnosed as tuberculous adenitis, 2 cervical and 1 inguinal, all gave positive reactions.

In a group of miscellaneous diseases the following were negative: 1 tabes dorsalis, 1 syphilitic periostitis, 2 chronic nephritis, 1 cirrhosis of liver (with chronic diarrhea), 2 gonorrheal arthritis, 1 filariasis with chronic nephritis, 1 hemoglobinuric fever, 1 empyema, 1 chronic heart, 1 traumatic rupture of lung with hemorrhage, 3 epidemic cerebrospinal meningitis, 1 leprosy, 1 syphilis (secondary), 3 acute nephritis, 3 amebic dysentery, 1 relapsing fever, 1 cystic kidneys, 2 chronic diarrhea, 4 uncinariasis, 4 liver abscess, 1 ulcer of foot, 2 arthritis (obscure), 1 each of alcoholic neuritis with rise of temperature, T. B. kidney, chronic nephritis, pericarditis and perinephritic abscess—42 cases in all.

Five miscellaneous cases gave positive reactions: amebic dysentery with temperature, posttyphoid arthritis, blastomycosis dermatitis, hematuria, aortic aneurism with bronchiectasis. Nine normal individuals gave negative reactions.

6. **Modification of the Thomas Wrench.**—For cases which do not yield to either manual force or the ordinary wrench, Meisenbach has devised a modification of the Thomas wrench whereby the os calcis, as well as the tarsal bones, are under the control of the operator and by means of which force can be exerted with as great accuracy and precision as is desired. The wrench is applied in a similar way to the Thomas instrument, but, before the force is exerted, the strap is wound around the external aspect of the os calcis and tensely adjusted to the hook on the opposite arm of the wrench. The wrench is applied from the external aspect of the foot, when external force is desired, and vice versa when internal force is the object. In applying the wrench, it should be approximated firmly to the foot, and care should be taken to fasten the strap firmly before any force is applied. The wrench itself is made similar to the Thomas wrench, to the lower arm of which is attached a strap about 60 cm. long with holes. On the corresponding arm there is a hook whereby the strap may be attached at any length desired. The author has used this wrench with great success in obstinate cases that have not yielded to other methods.

New York Medical Journal

September 25

7 Abrus Precatorius in Epithelioma. J. V. Shoemaker, Philadelphia.
8 Prevention and Cure. B. Robinson, New York.
9 Symphysis by Immediate Prothesis. C. J. Koenig, Paris, France.
10 Plea for the Advancement of the Study of Medical History. H. Pomeranz, New York.
11 *Uncontrollable Uterine Hemorrhage. A. Samuels, Baltimore.
12 Tetanus with Recovery Following Injection of Antitetanic Serum into the Sciatic Nerve. C. M. Stimson, Philadelphia.
13 Perforating Ulcers of the Feet in Two Brothers, Caused by Productive and Obliterative Endarteritis. W. E. Sanders, Alta, Iowa.
14 Physiology and the Second Law of Thermodynamics (concluded). F. H. Garrison, Washington, D. C.

October 2

15 *Persistence of the Gonococcus in the Prostate. G. A. De S. Saxe, New York.
16 *Treatment of Locomotor Ataxia by a Modification of the Re-Educational Exercises. E. A. Fruchthandler, New York.
17 Diagnosis of Incipient Pulmonary Tuberculosis. W. J. Pulley, New York.
18 Few Points on the Early Diagnosis of Tuberculosis. L. S. Peters, Silver City, N. M.
19 Postoperative Suppression of Urine. A. B. Cléborne, Savannah.
20 *Pathogenesis of Round Ulcer of the Stomach. J. A. Work, Elkhart, Ind.
21 Operation for Brain Tumor with Occurrence of Hitherto Unrecognized Circulatory Phenomena. P. Zenner and S. P. Kramer, Cincinnati.
22 Determination of the Hepatic Area by X-Rays and by Auscultatory Percussion and Allied Methods. Echinococcus Disease. A. L. Benedict, Buffalo.

11, **Uncontrollable Uterine Hemorrhage.**—Samuels reports two cases of uncontrollable uterine hemorrhage in which hysterectomy was performed.

15. **Gonococcus in Prostate.**—Of 150 cases of chronic gonorrheal infection of from 6 months to 18 years' duration, 6 per cent. showed prostatitis. The older the infection, the more frequent was the prostatitis. Of the 108 cases of prostatitis studied by Saxe, 31, or 28.7 per cent. showed gonococci in the prostatitis secretion. The older the infection the less probable was the finding of gonococci in the prostate. After three

years, gonococci were found rarely, even after most persistent efforts. Many and thorough examinations are needed before it is at all certain that the gonococcus is absent from the prostate. Mixed infection occurred in 86 per cent. of the cases studied. The gonococcus alone occurred in only 5 cases of 108, and all 5 were cases of less than one year's duration. The older the case the more prevalent was the mixed infection. Staphylococci occurred in 74 per cent., bacilli in 28 per cent., Gram positive diplococci in 10 per cent., and streptococci in 7.6 per cent. of cases with mixed infection. The absolute need of microscopic examinations of prostatic secretion was shown by the fact that palpatory signs were absent in 38 cases (35 per cent.), while 13 cases (12 per cent.) showed absolutely clear urine, although the smears showed prostatic infection. Saxe claims that gonorrheal prostatitis is curable by proper treatment in the great majority of cases.

16. **Treatment of Locomotor Ataxia.**—Fruchthandler describes fully a method of treatment based on the Frenkel method, but without the use of complicated devices. His results have been gratifying to him. For details the reader is referred to the original article.

20. **Round Ulcer of Stomach.**—Work claims that in the causation of the typical round ulcer of the stomach there is: (1) A neutralization of the natural protective bodies current in the blood stream and tissues; (2) the elaboration of either an endogenous or exogenous cytolytic poison which is specifically toxic for gastric mucous membrane; and (3), as a result of these factors, a neurosis and desquamation of actual glandular tissue of the stomach takes place which is accompanied by a lack of gastric mucus and a large increase in the hydrochloric acid.

Medical Record, New York

September 25

23 Clinical Experience with Calcium Lactate in Hemorrhages of the Upper Air Tract. W. K. Simpson, New York.
24 The Therapeutics of Calcium Sulphid in Relation to Surgery and Contagious Diseases. G. D. Ussher, Van, Turkey.
25 The Clinical Side of Disease in the Philippine Islands. T. W. Jackson, U. S. Army.
26 *Simpson and Chloroform. V. Robinson, New York.
27 The After-Care of the Insane. G. H. Williams, Columbus, Ohio.
28 *Tonsil Removal, Opsonic Index and Immunity. B. D. Sheedy, New York.

October 2

29 *The Adverse Influence of Diabetes in Certain Operations on the Eye. C. S. Bull, New York.
30 Joint Tuberculosis: Special Reference to Its Pathology. L. W. Ely, New York.
31 *Tuberculin for the Diagnosis and Therapy of Renal Tuberculosis. W. Karo, Berlin, Germany.
32 The Traumatic Neurosis and Babinski's Conception of Hysteria. T. A. Willi
33 The First American
34 *The Staining of Bloo n, Conn.
35 Stenosis of Vesical J. B. Squier, New York.

26. **Simpson and Chloroform.**—Robinson gives a graphic account of the surroundings and birthplace of James Simpson, who first made use of chloroform in labor.

28. **Removal of Tonsil.**—Sheedy says that tonsils in the young serve an important purpose and should not be removed unless they are so far diseased that their normal function is interfered with. In such cases they no longer act as a fortification and protection against bacteria, but may become the means of entry of these enemies to health. Immunity is produced by the tonsils; natural immunity is caused by inflammations, and artificially acquired immunity is produced in the tonsillar crypts by agglutination and the development of opsonic power.

29. **Influence of Diabetes in Operations on Eye.**—Of 115 operations, 62 were cataract extractions, 40 were preliminary iridectomies, 9 were iridectomies for optical purposes, owing to the presence of central corneal opacities, and 4 were iridectomies for chronic glaucoma. Of the 62 cataract extractions, 40 were senile cataracts in diabetic patients, and all the patients were 65 years of age or over. These were all extractions with iridectomy, and all the patients recovered without any serious complications, though the wound healed slowly in 11 cases. There were no hemorrhages and no sign of infection in any of the cases. Ten cases showed slow healing of the wound, and all gave evidence of arterial degeneration and a high intravascular tension. The remaining 22 cases were all pure diabetic cataracts; that is, they were cortical cataracts, bluish-white in color, and somewhat swollen. The patients' ages varied from 36 to 40 years. In each case, before operation, care was taken to reduce the percentage of sugar to a minimum and, so far as possible, to eliminate the abnormal products, acetone, diacetic acid and oxybutyric acid. In 6 of the 22 there was a somewhat profuse hemorrhage into the anterior chamber, which recurred several times. In 2 cases there were retinal hemorrhages, which did not recur and were slowly absorbed. In 6 cases the operation was followed by iritis, without much exudation, which was obstinate in resisting treatment, and a discission of the opaque capsule was necessitated in 2 cases. In the remaining 8 cases there were no complications, either at the time of the operation or following it, and the wounds healed promptly with excellent results as to vision. In 14 of the 22 cases there were signs of arteriosclerosis in the conjunctival vessels, and after the extraction of the cataracts the same condition was found in the retinal arteries. In the remaining 8 cases arterial degeneration was demonstrable. In the second list of operations 40 cases of preliminary iridectomy in cataract patients, 22 were senile cataracts in diabetic patients, whose ages varied between 60 and 68, and 18 were true diabetic cataracts in patients under 40 years. In the 22 cases of senile cataracts no case of iritis occurred after the iridectomy, but in 3 cases there was an annoying hemorrhage into the anterior chamber and the external wound healed very slowly, and in these 3 the signs of arteriosclerosis were present. In the 18 cases of true diabetic cataracts iritis occurred in 4 cases, but owing to prompt treatment no permanent synechiæ were formed. In the third list of operations there were 9 iridectomies for optical purposes, owing to central corneal opacities. There were no anterior or posterior synechiæ and no signs of intraocular irritation. They were all young diabetics, under 40, and with one exception, all did well, the wounds healing promptly. In all 9 patients the fellow eye was normal. In the fourth and last class of operations there were 4 iridectomies for chronic glaucoma performed before the field of vision was much contracted. All 4 patients did badly, and 1 patient fell into collapse and nearly died. Three were men and 1 was a woman. Profuse hemorrhage into the antĕrior chamber occurred in all 4 cases, and recurred several times, but there were no retinal hemorrhages. In the fourth case, a woman aged 59, there was a profuse hemorrhage into the anterior chamber. Eight months later the patient succumbed to an attack of diabetic coma.

31. **Tuberculin in Renal Tuberculosis.**—Karo says that tuberculin is of great value in the treatment of renal tuberculosis, and that no such patient should be operated on until this treatment has proved a failure. Even after the operation the tuberculin treatment is of utmost importance.

34. **Staining of Blood Films.**—The most uniform results have been obtained by Fisher from a slight modification of Jenner's stain, which requires the use of no other apparatus than the staining solution and slide, and is prepared after the following formula: Take 200 c.c. of a 1.25 per cent. solution of yellow aqueous eosin in distilled water and mix with 200 c.c. of a 1 per cent. solution of methylene blue, medicinally pure, Grübler, in distilled water. Allow this mixture to stand in an uncovered shallow porcelain evaporating dish for from 24 to 36 hours, protected from dust, then filter through a fine-grained filter paper; dry the residue in the incubator or oven at from 55 to 60 C. This powder is shaken up with cold distilled water, filtered through fine paper, and washed with distilled water until the washings are a thin, dirty, purplish color. Dry the precipitate on the paper, either in the air or in the oven, not above 60 C., then scrape off the powder and store in a bottle. This gives enough powder for from 300 to 400 c.c. of stain. Take the above powder, 0.2 gram, and of methyl alcohol (acetone free), 100 c.c. Rub up in a mortar, adding the alcohol to the powder, a drop at a time, allow to stand for 3 or 4 days in a bottle, then filter and add 25 c.c. of methyl alcohol. The bottle should be corked tightly to avoid evaporation and consequent concentration of the stain, but the solution may be diluted later with another 25 c.c. of methyl alcohol if necessary. Make blood films on slides, dry quickly in the air, and cover with a thin layer of the staining solution without previous fixation. Stain

the slide for from one to three minutes, then wash with some of the original solution, removing any possible precipitation and intensifying the stain. Next wash in running water until film is a mahogany color. Dry with filter paper. It is impossible to overstain. The red cells are stained a terra cotta; stippled cells are easily detected by the minute bluish markings; nuclei are blue and sharply defined; blood platelet in clumps are a paler blue, but quite distinct; granules of the polymorphonuclears are a dull mahogany; granules of eosinophiles, a brighter mahogany; basophilic granules are bluish violet; malarial parasites are stained a greenish blue; the pigment of the pigmented forms is unaltered, and the ordinary bacteria are stained blue. This method of staining is used in counting bacteria for vaccines and the opsonic index.

Lancet-Clinic, Cincinnati

September 25

36 Criminal Abortion. A. B. Davenport, Columbus, Ohio.
37 The *X*-Ray in Diagnosis of Pulmonary Tuberculosis. S. Lange, Cincinnati.
38. The Sanatorium Treatment of Tuberculosis. L. B. Morse, Chimney Rock, N. C.
39 Abscess and Acute Softening of Brain. P. Zenner, Cincinnati.

October 2

40 Genitourinary Diseases. E. O. Smith, Cincinnati.
41 The Therapeutics of Belladonna. W. E. Bloyer, Cincinnati.

Kentucky Medical Journal, Bowling Green

September 15

42 The Evolution of the Anesthetist. W. H. Long, Louisville.
43 Turbinectomy as a Remedy for Adenoids and Nasal Obstruction. D. S. Reynolds, Louisville.
44 Cardiospasm. G. A. Hendon, Louisville.
45 Excision of the Gasserian Ganglion. A. Schachner, Louisville.
46 *Unusual Case of Infantile Paralysis. B. C. Frazier, Louisville.
47 Floating Cartilage in the Elbow Joint. R. L. Ireland, Louisville.
48 Postoperative Insanity. I. Abell, Louisville.

46. **Infantile Paralysis.**—About the middle of July, 1909, Frazier saw a young girl, 14 years old, who, about five or six days before, had suffered from a mild digestive disturbance. She had a temperature of 99 F. and it ranged from that up to 101; no diarrhea and no vomiting. Five or six days later she had become paralyzed. The history was that during the night this girl had awakened her mother and asked the latter to take her hand out from under her, as she had lost the power to do so. In the morning it had extended to the left leg and foot, and a few hours later she could not move the right hand or foot. One unusual feature of the case was in connection with the family history. The mother was 49 years of age when the child was born and the father was about 58 or 60. This was the first and only child. The child had been healthy, had grown rapidly, and had gotten along well at school; had none of the usual diseases of childhood. When this attack begun it was thought to be a spell of indigestion. The girl was menstruating at the time, this being her third period, the interval between periods being several months. A diagnosis of anterior poliomyelitis was made.

Another point of more than ordinary interest was the fact that the patient was exceedingly sore and complained on being moved or handled. She had an unusual degree of insomnia. She slept scarcely at all during the first two weeks, and when moved would ask to be moved back again in ten or fifteen minutes. After the first few days she could draw her right hand up and take hold of an object, or when her foot was drawn up she could push it down, but it was weeks before she could sit alone. She is now able to sit up in a chair and can even hold a book in either or both hands. She can get her hand up to her head by putting it up backward, and can even stand alone when her father stoops down and places her knees together, but she cannot take a step with either foot yet. She can work her left foot along a little, and can raise one of her legs up straight; she can just bend her thigh, not the hip. She cannot turn over in bed unassisted. Occasionally she asks to have her legs crossed, and when she desires to have them uncrossed some one has to do it for her. She is well nourished and has a good appetite, and the condition of the bowels and kidneys is all right.

Medical Fortnightly, St. Louis

September 10

49 Prehistoric Syphilis in America. A. S. Ashmead, Canadensis, Pa.
50 A Reason Why. G. L. Servoss, Fairview, Nevada.

Northwestern Lancet, Minneapolis

September 15

51 Purification of Drinking Water. G. F. Ruediger, Grand Forks, N. D.
52 Water Supply of Minneapolis. R. O. Beard, Minneapolis.
53 Physicians' Investments—Bonds. E. M. Stevens, Minneapolis.

Virginia Medical Semi-Monthly, Richmond

September 24

54 Pellagra—Report of Fourteen Cases. W. F. Drewry, Petersburg, Va.
55 Public Schools and Public Health (concluded). C. G. Kerley, New York.
56 Communicable Disease, the Health Officer, Physician and People. T. L. Richardson, Baltimore.
57 Analysis of Eighty Cases of Labor. K. P. B. Bonner, Morehead City, N. C.
58 Intestinal Irritation—Treatment. G. L. Servoss, Fairview, Nevada.
59 **Dyspepsia—A Misnomer.* W. B. Stewart, *Atlantic City, N. J.*

59. Abstracted in Society Proceedings in The Journal, August 7, 1909, p. 477, and published in the *Journal of the New Jersey State Medical Society*, for September, 1909.

New York State Journal of Medicine, New York

September

60 Relative Values of the Fowler and Clark Positions. H. B. Delatour, Brooklyn.
61 Internal Secretions and Animal Therapy. W. Browning, Brooklyn.
62 *A Year's Experience with Rubber Gloves. R. S. Fowler, Brooklyn.
63 Roentgen Rays in Diagnosis. E. W. Caldwell, New York.
64 Principles of Obstetric Practice, Based on 2,000 Cases in the Low Maternity. F. H. Stuart, Brooklyn.
65 *Untoward Results from Diphtheria Antitoxin with Special Reference to Its Relation to Asthma. H. F. Gillette, Cuba, N. Y.
66 Neurasthenia and Psychasthenia. N. A. Pashayan, Schenectady, N. Y.
67 Considerations of Senescence. W. M. Gibson, Utica, N. Y.

62. **A Year's Experience with Rubber Gloves.**—As the result of his experience, Fowler claims that gloves do not reduce the number of postoperative infections; the wound must be somewhat larger to allow of at least occasional visual direction; the tactile sense is decidedly interfered with, nor does the continued use of gloves educate the tactile sense anywhere near that of the bare hand. In his own case there was no difference as regards the condition of the skin of the hands. Manipulations are rendered slower and in some cases decidedly dangerous. The length of time of operation is decidedly increased, and, hence, there is added danger and shock to the patient. Assistants and nurses should wear gloves, as they are not so accustomed to preparation of the hands.

65. Abstracted in Society Proceedings in The Journal, Feb. 13, 1909, p. 580, and published in the *Therapeutic Gazette*, March, 1909.

Journal of Experimental Medicine, Lancaster, Pa.

September

68 Studies in Edema: Influence of Calcium Chlorid, Adrenalin, Myocarditis and Nephrectomy on the Dilution of Blood During Intravenous Injection of Sodim Chlorid Solution. M. S. Fleisher and L. Loeb, Philadelphia.
69 Idem: Effect of Calcium Chlorid, Adrenalin and Myocarditic Lesions on the Blood Pressure in Animals Injected Intravenously with Sodium Chlorid Solution. M. S. Fleisher and L. Loeb, Philadelphia.
70 *Influence of Concentration (Gibson's Method) on the Presence of Tetanus Toxin in Blood Serum. J. F. Anderson, Washington, D. C.
71 *Relations of the Thyroid Glands to Glycosuria. E. G. Grey and W. T. de Sautelle, Baltimore.
72 *Influence of the Thyroid on Carbohydrate Metabolism. J. H. King, Baltimore.
73 *Effect of the Injection of Bile on the Circulation. J. H. King and H. A. Stewart, Baltimore.
74 *Enzymes of Tuberculous Exudates. E. L. Opie and B. I. Barker, New York.
75 Auto-Antibody Formation and Antihemolysis. C. E. Simon, E. Melvin and M. Roche, Baltimore.
76 *[illegible] and Antienzymes of Normal and Path- [illegible] Fluids. A. R. Douchez, New York.
77 *[illegible] of Pneumococcus Infections. S. Strouse, Baltimore.

70. **Influence of Concentration.**—Anderson shows that concentration of antidiphtheritic serum by precipitation with ammonium sulphate and acetic acid, followed by dialysis, does not remove all the toxic impurities that may be in such serum, and that the foreign toxin is probably carried with the antitoxin in the globulin fraction.

71. **Relation of Thyroid Glands to Glycosuria.**—After thyroidectomy, the glycosuria produced by ether or adrenalin in the normal animal is greatly reduced. Thyroidless dogs fed with powdered thyroid gland show a return of the glycosuria

more or less proportional to the amount ingested when treated with ether or adrenalin. As the thyroids regenerate the ether or adrenalin glycosuria increases similarly. The experiments indicate that the secretion of the thyroid is connected directly or indirectly with the metabolism of the sugar in the body.

72. **Carbohydrate Metabolism.**—King finds that the thyroid retards the destruction of carbohydrates in the body and that iodothyrin, the active principle of the gland, exerts this influence even more strongly than the whole gland.

73. **Effect of Injection of Bile on Circulation.**—In experimental jaundice there is an increase of calcium in the blood: and the authors, finding that bile pigment in combination with calcium and sodium, is less toxic than uncombined pigment, are of the view that increase in calcium is a protective mechanism against the bile pigments of obstructive jaundice.

74. **Enzymes of Tuberculous Exudates.**—The observations here recorded show, as previously indicated, that the mononuclear epithelioid cells of tuberculous tissue contain an enzyme which digests protein actively in an acid and slightly less actively in neutral medium, being wholly inactive in the presence of alkali. Unlike the enzyme of the polynuclear leucocytes, this enzyme is not inhibited by the serum of tuberculous exudate obtained by injecting tubercle bacilli into the pleural cavity of a dog, although it is inhibited by the blood serum. The serum of such an exudate, unlike the serum of the blood, is capable of digesting denaturalized protein. The power of digesting protein has not been demonstrated in the serum of human tuberculous exudates.

76. **Proteolytic Enzymes and Antienzymes.**—The spinal fluid was found to contain normally neither proteolytic enzyme nor antienzyme. In pathologic conditions, however, enzyme and antienzyme may make their appearance in the spinal fluid. In inflammations of other serous cavities the antienzymes of the exudated serum as a rule is sufficient to restrain the activity of the proteolytic enzyme freed from the leucocytes, but in infections of the meninges with pneumococcus and *Streptococcus mucosus* free proteolytic enzyme was found in four of five cases. Free proteolytic enzyme has not been found in the spinal fluid in epidemic meningitis; antienzyme was found to have a tendency to disappear more rapidly than in other inflammatory exudates. In subdural non-inflammatory transudates the inhibitory element of the blood serum accumulates, suggesting an interference with the elimination of the antibody from the spinal fluid. In tuberculous meningitis the spinal fluid showed various degrees of antienzymotic action.

77. **Pneumococcus Infections.**—Strouse finds that phagocytosis of pneumococci *in vitro* runs parallel with phagocytosis *in vivo* and that the virulence of pneumococci depends not only on the results of phagocytosis but also on the ability to grow in the body of the animal. The immunity of the pigeon to pneumococcal infection is ascribed to its high normal temperature.

Surgery, Gynecology and Obstetrics, Chicago

September

78 *Treatment of Sepsis with Bacterial Vaccines. H. F. Hartwell, E. C. Streeter and R. M. Green, Boston.
79 Membranous Pericolitis. J. N. Jackson, Kansas City.
80 *Case in which Both Patellæ Were Sutured on the Same Day for Double Fracture. R. Morison, Newcastle-on-Tyne, England.
81 *Direct Blood Transfusion by Means of Paraffin-Coated Glass Tubes. G. E. Brewer and N. B. Leggett, New York.
82 Treatment of Inoperable Carcinoma of the Uterus. G. A. Martin, Berlin, Germany.
83 Late Manifestations of Intracranial Hemorrhage of Traumatic Origin. D. P. Allen, Cleveland, Ohio.
84 Hemorrhagic Uteri: Myopathic Uterine Hemorrhage. B. M. Anspach, Philadelphia.
85 *Rôle of the Lymphoid Tissue in Inflammatory Conditions of the Alimentary Canal. R. V. Dolbey, Vancouver, B. C.
86 The Hormone Theory and the Female Generative Organs. E. Novak, Baltimore.
87 [illegible] plete Laceration of Perineum. H. [illegible]
88 [illegible] of the Uterus and Vagina. H. G. [illegible]
89 Symphysiotomy. T. M. Burns, Denver, Colo.
90 *Accidental Implantation of an Epithelioma—Shoulder-Girdle Amputation. J. C. Hubbard, Boston.
91 *A Rapid Interlocking Suture. M. R. Bookman, New York City.
92 *A New Tube and Valve Device for Expanding Collapsed Lung. J. S. Dean, Wheatland, Iowa.
93 Sarcoma of the Cecum. C. A. Hamann, Cleveland, Ohio.
94 Penetrating Wound of the Abdomen. J. L. Wilson, Alexandria, La.

78. **Treatment of Sepsis.**—The 97 cases which form the substance of this report have been infections, mostly acute, with various bacteria, the ordinary pyogenic organisms. They form a miscellaneous collection which can best be described under the general term of "surgical sepsis," and include such diverse cases as septic fingers and hands, septic laparotomy wounds, and septicemia. In every case, the pathogenic organism was determined by culture, and in the majority an "autogenous" vaccine was used. In some cases two different vaccines were employed when it seemed probable that there was more than one offending bacterium. The vaccines were made up according to the method devised by Sir A. E. Wright, somewhat modified according to Mallory and Wright.

The amount of inoculation varied with the micro-organism and with the nature of the infection. The initial dose was from 5 to 25 millions, and this amount was gradually increased at each successive inoculation, as it is assumed that an increasing tolerance was attained. The maximum amount given was usually 100 million, although this was sometimes exceeded. In all cases, except the general infections, an arbitrary interval of three days was made between each two inoculations, that is, they were given every fourth day. Other spacing may be more effective, but this was followed in the boils and carbuncles, and seemed to afford the most satisfactory results. Eighteen patients with puerperal infections recovered. In some of the cases of puerperal infection the effect of vaccine on the temperature and general condition was less striking than in others. These were cases in which an abscess had formed, probably in the tubes, and they did not clear up until the pus was discharged by vagina.

Besides these puerperal patients, 9 general infections were treated; 4 were *Staphylococcus aureus* and 5 were streptococcus; 4 of these 9 progressed to a fatal termination. In the patients who recovered, the authors do not think the vaccine can lay claim to any further share in the successful outcome than the complete surgical treatment which was followed.

The second group, septic laparotomy wounds, comprise 22 cases. Nine of these were clean cases, which were infected secondarily; the remainder were septic and were drained from the beginning. *Bacillus coli* and *Staphylococcus aureus* were the organisms most frequently found, streptococcus came next, while one showed the pneumococcus. When the *Staphylococcus aureus* was found, a "stock" vaccine was used, with the others an "autogenous" vaccine. In some of these cases, when the wounds had remained stationary for some time, improvement seemed to follow immediately after vaccination. Not one patient of this group was dangerously ill, and they were all discharged from the hospital in good condition. In the third group there were 41 cases, largely septic fingers and hands, with some of the lower extremities, including the groin, and a few of the head and neck. These cases represent a class of varying degrees of sepsis. The patients all recovered, some after extensive incisions and some after mutilating operations.

The authors conclude therefore: 1. That bacterial vaccines should be further employed in puerperal infections which do not immediately respond to routine treatment. 2. That bacterial vaccines are of much value in that type of sepsis which has remained stationary for some time. 3. That in the remainder of the cases of this series they were not able to see that the vaccines were of any apparent help.

80. **Double Fracture of Patellæ.**—Morison emphasizes the desirability of using absorbable material in these cases rather than wire or other non-absorbable material. He says that with the patella sutured with catgut it would not be safe to allow movement of the knee in less than from four to six weeks. Morison has never seen permanent stiffness of the joint after this operation in any of his cases, though some of the patients were over 60 years old.

81. **Direct Blood Transfusion.**—The object of this communication is to record the results of some experiments undertaken with a view to finding some simple method of direct blood transfusion. A set of glass tubes were made, some of which were straight, with a uniform caliber, others bayonet-shaped, and still others somewhat tapering in shape and caliber, to be

used when transfusion was attempted from a large adult artery to the small vein of a child. Each extremity of the tube is notched to allow of a ligature being applied after the tube is introduced into the lumen of the vessel. These tubes should be sterilized in a steam autoclave or by boiling, and afterward dropped into boiling paraffin, and the excess of melted paraffin removed by shaking the tube in the air. This also results in rapid drying of the paraffin leaving a thin film on both the inner and outer surfaces of the tube. The paraffin adherent to the outer surface of the tube then is removed to allow more ease in handling.

Of 31 experiments only 3 animals died, each from a too-rapid transfusion of the blood, causing distention of the right heart. This accident occurred when the largest tubes were used, through which the flow was very rapid. In some of the later experiments this accident was avoided by gently compressing the arterial trunk with the finger, reducing thereby to a considerable extent the rate of the flow. On one occasion only did the blood apparently clot in the tube, and that was undoubtedly due to the very small caliber of the tube used. In one other experiment clotting occurred in the vein near the extremity of the tube, due to an accidental separation of the paraffin coating. In one other case the blood did not at first flow through the tube, but the arrest of the circulation was found to be due to a clot in the artery from a wound of the intima due to a too vigorous application of the preliminary clamp. When the injured part of the artery was cut away, blood flowed through the tube as in the other experiments. The authors believe that this is the simplest method proposed; that it can be carried out by any surgeon of ordinary experience without the necessity of previous training. They also believe that considerable time may be saved by its employment, in that it requires a shorter exposure of the vessels than is necessary to effect union when the methods by direct contact are employed. The method has been employed to effect transfusion in a patient at the Roosevelt Hospital, who was suffering from acute anemia due to repeated profuse gastric hemorrhage. In this instance blood flowed for nineteen minutes through a medium sized tube without clotting. The patient rallied well. The hemoglobin rose from 30 to 70 per cent. during the progress of the operation, but he died the following day from a recurrence of the hematemesis.

85. **Inflammatory Conditions of the Alimentary Canal.**—Dolbey suggests that a very close analogy may be drawn between inflammation of the tonsil and other inflammatory conditions of the intestines; that the tonsil is the type on which we found a basis of our understanding of inflammatory conditions of the lymphoid tissue of the alimentary canal. The fact that there is normally no lymphoid tissue in the stomach of the new-born infant, and that gastric lymphoid tissue increases in amount up to middle life, and tends to disappear entirely in the later years of life, gives us an easy, if rather superficial, explanation of the rarity of acute inflammatory ulcerative conditions in children or the aged. The absence of lymph tissue in those individuals above 50 will supply a pathologic basis for the well-known clinical findings in gastric conditions in this age. Thus we obtain pathologic support for the dictum that if a patient develops gastric symptoms for the first time after 50, it is more than probable that we have carcinoma of the stomach to deal with rather than ulceration. The incidence of lymphoid tissue at the pylorus and on the lesser curvature explains why chronic ulcers of the stomach are so much more common in those situations.

90. **Accidental Implantation of Epithelioma.**—The clinical points of interest in Hubbard's case may be summarized as follows: 1. The change of an ulcer of the right forearm, which had been for years simple in character, into an epithelioma of marked malignancy. 2. The breaking down of the tissues after an operation following directly on numerous exposures to the x-ray and radium. Was it ordinary sepsis, or were the tissues so altered that they could not withstand the added irritation of an operation? 3. The direct inoculation of the breast with the epithelioma. 4. The case emphasizes, in general, the importance of removing cancer with an area of healthy tissue about it. It illustrates the possibility of spreading the disease by bringing the cancer in contact, by instruments or otherwise, with the wound.

91. **Rapid Interlocking Suture.**—To make the suture described by Bookman no special instruments are necessary, only several self-threading, calyx-eyed needles and a spool of Pagenstecher celloidin linen thread or plain silk (preferably the former). The needle used had better be of the long, round, half-curved kind which is easier to handle, and the suture material should be wound on a spool in one continuous length of from ten to twelve yards. After the bowel has been resected, the cut ends are caught in traction sutures so that the mesenteric triangle is situated from one-half to three-fourths of an inch inside the left traction suture. When only a few stitches are required and the suture material used is catgut it is better not to use a self-threading needle lest it tear the strand, but to thread a number of needles on the catgut beforehand and slide them along as required. For a detailed description, the original paper should be consulted.

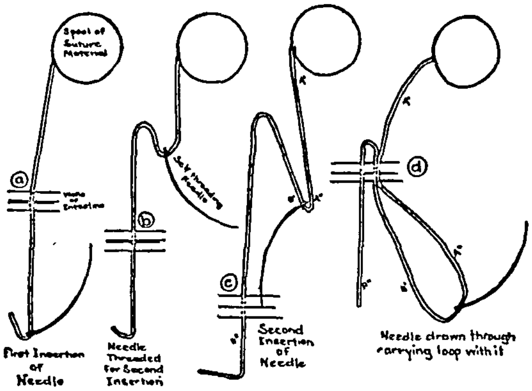
Spool of Suture Material
Walls of Intestine
Self threading needle
a
b
c
d
A'
A''
B'
B''
First Insertion of Needle
Needle Threaded for Second Insertion
Second Insertion of Needle
Needle drawn through carrying loop with it

Fig. 1

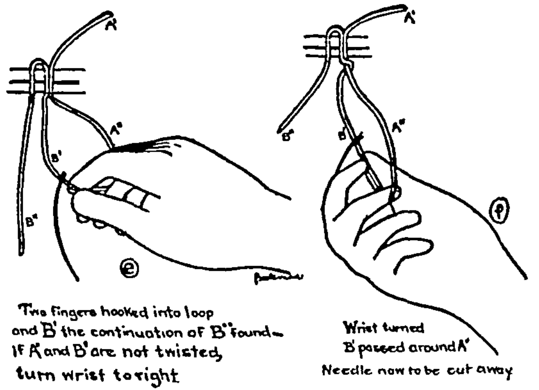
A'
A''
B'
B''
e
f
Two fingers hooked into loop and B' the continuation of B'' found— If A' and B' are not twisted, turn wrist to right
Wrist turned B' passed around A'
Needle now to be cut away

Fig. 2.

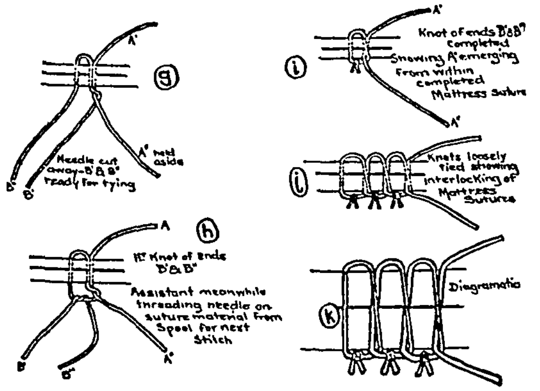
g
h
i
j
k
A
A'
B'
B''
Needle cut away—B' & B'' ready for tying
A' held aside
1st Knot of Ends B' & B''
Assistant meanwhile threading needle on suture material from Spool for next Stitch
Knot of ends B' & B'' completed
Showing A' emerging from within completed Mattress Suture
Knots loosely tied showing interlocking of Mattress Sutures
Diagramatic

Fig. 3.

92. **Tube and Valve Device for Expanding Collapsed Lung.**—The device consists of an ordinary soft-rubber drainage tube of any size desired, and a valve made of oiled silk, any

flexible waterproof material or of aluminum; a flexible shield for protecting the valve from interference from the external dressing and to hold the tube in a pivotal manner, thus maintaining it in the chest wall without bending or causing lateral pressure on the tissue. The elastic wing of the shield under body bandage with appropriate pressure, holds the shield in coaptation to the chest, both in inspiration and expiration. A secondary specially devised bandage, over the base of the shield, prevents later movement, hence the combination of the pivotal hanging of the tube, the elastic wing of the shield under appropriate pressure, and the secondary body bandage maintains the tube in absolutely perfect position, leaving the patient free to move as he pleases, in bed or out. The manner of attaching the tube to the shield also prevents the discharge from regaining access to the pleura, as it at once drops away from the end of the tube as soon as it leaves the pleural cavity.

Air is prevented from gaining access to the pleura around the drainage tube by winding the distal end of the tube with 5 per cent iodoform gauze. It does not need to fit the opening overly tight to serve this purpose in practice. As to the valve, in cases of moderate collapse, the tube is used with the end cut at a right angle. This valve closes instantly at the beginning of inspiration, and enables the full atmospheric pressure to act inside the lung. While negative pressure is ordinarily understood, it is not produced within the pleural space by this method. Rarification in sufficient degree is produced to cause rapid expansion of the lung.

Military Surgeon, Washington, D. C.

September

95 Hygiene of the Preventable Diseases. F. M. Munson, U. S. Navy.
96 Ambroise Paré—The Romance Side of His Career as Army Surgeon. A. McGlannan, Medical Corps, N. G., Maryland.
97 Disease—A Conservative Instrument of Nature. P. C. Kalloch, P. H. and M.-H. S.
98 Treatment of Appendicitis Under Conditions Incident to the Naval Service. C. F. Stokes, U. S. Navy.
99 Insolation Followed by Amnesia and Exhaustion. C. N. Fiske, U. S. Navy.
100 The Work of the Board for the Study of Tropical Diseases in the Philippines. J. M. Phalen and H. J. Nichols, U. S. Army.
101 Plague-Like Bacillus Causing Epizootics Among Alaskan Dogs. F. Schmitter, U. S. Navy.

Journal Tennessee State Medical Association, Nashville

September

102 *Epidemic Meningitis. J. [illegible]
103 Coccidioidal Granuloma [illegible] the Central Nervous System. N. E [illegible]
104 *Cancer of the Stomach, [illegible] the Sites and Frequency of Cancer i[illegible] Tract. C. P. McNabb, Knoxville.

102. **Epidemic Meningitis.**—Overton studied records of 17 patients. Of these 3 were untreated, and all died; of the 12 treated, 7 died; but of these 7, 2 were practically moribund at the time of injection, and 1 died in less than twenty-four hours after the first injection. Five recovered, 4 of these by crisis and 1 by lysis. Recovery was complete in all but 1, and this 1 has still internal squint in one eye. Of the treated patients who died, all died within the first week. Of the 17 patients 5 were white and 12 colored. There was one child 2 years old and one 7; there were 3 men over 50, and the other patients were between 10 and 30. There was a history of premonitory symptoms in 3, and history of recent intoxication in 3. The symptoms noted were: Headache, rigidity and tenderness in neck, and Kernig's sign, in all; Babinsky's sign in 4; herpes in 4; internal squint in 2; paralysis of external rectus in 2; haziness of vision in 2; diplopia in 1; irregular pupils in 4; conjunctivitis in 2, and photophobia in 1; facial paralysis in 3; convulsions only in 1, a child of 2 years; chill in 9; vomiting in 4; typical attitude in 2; irrational state of mind from that of mild degree to active delirium, requiring watching and restraint, in all but 1; albumin in urine in 3; retention or incontinence early in all but 4, present before death in all; sweating free in 5; typical rash in 1; and urticarial rash in 1; in 4 emaciation before death was extreme; there was deafness in 2; there were 2 instances of associated cases; 1 case was complicated with pneumonia; 1 was of the subacute form; the pulse in the bad cases was irregular and slow or running; the temperature was not continuous, and was not above 104, except in one case; there was Cheyne-Stokes respiration in 2. In all who died the leucocyte count remained high, and polynuclears were increased in some to as high as 95 per cent. In the patients who recovered, as a rule, the count gradually fell. The fluid was cloudy in all, purulent in most, and in a few so thick that it would hardly run through the needle. The largest amount of fluid withdrawn from any one case was 270 c.c., and the most serum injected was 210 c.c. The usual dose of the serum was 30 c.c., but on several occasions it was 45 c.c. The effect of the serum on the fluid was generally to increase phagocytosis, to decrease number of diplococci, to lessen their viability as shown by cultures, and to cause a clearing of fluid in most cases of recovery after two or three doses. In patients dying the last cultures were negative in all but one. In those recovering the last cultures were negative in all but one, and in this one the growth was very slight.

104. Abstracted in THE JOURNAL, May 1, 1909, p. 1452.

Providence Medical Journal

September

105 The Problem of Centenarianism. F. C. Clark, Providence.
106 Clinical Pathology of the Endometrium. H. G. Palmer, Providence.
107 Sudden Death Following Lavage of the Stomach. C. H. Bailey, Providence.

Northwest Medicine, Seattle

September

108 General and Metatastic Infections Due to the Gonococcus. J. B Herrick, Chicago.
109 [illegible] h the Aid of the Cystoscope. H. [illegible]
110 [illegible] J. E. Pullman, Wash.
111 *[illegible] of the Colon. C. W. Sharples, Seattle, Wash.
112 *Ophthalmoplegic Migraine Involving the Abducens Nerve. C. A. Veasey, Spokane, Wash.
113 Gangrene of the Ischiorectal Fossæ Caused by Spirillum. A. S. Monro, Vancouver, B. C.
114 Significance of Pain in Women. W. C. Smith, Salem, Ore.

111. **Constipation and Resection of Colon.**—Sharples reports one case in which he employed successfully the procedure advocated and first described by Lane—resection of the colon with anastomosis between the sigmoid and small intestine.

112. **Ophthalmoplegic Migraine.**—Veasey's patient was perfectly well, except for violent attacks of headache, which began in her fourth year of age, and which had recently become of more frequent occurrence. These attacks always began with violent supraorbital and temporal pain on the left side, lasting for an hour or two, and were always followed by nausea and vomiting. Occasionally the first vomiting relieved the pain, but more frequently the vomiting was followed by violent retching which usually continued until after the child had secured some sleep. Marked photophobia was usually present during the attacks. Following one attack there was observed a squint in the left eye, the latter turning toward the nose and the patient complaining of diplopia. After a week or two the squint disappeared. A few days before Veasey examined the patient she had an unusually violent attack, followed by prolonged vomiting and retching, and on the following day again complained of diplopia. At the time of his examination there was a distinct internal squint of the left eye, due to the almost complete paralysis of the external rectus muscle.

Examination of the eyes showed the vision in each to be 6/9, and the refractive error to be a compound hyperopic astigmatism. Each optic nerve presented the appearance of the so-called pseudo-optic neuritis. In ten days' time the paresis had entirely disappeared and the patient fitted with glasses. Under treatment the migrainous attacks became somewhat less frequent, but in October, 1907, there were three very violent attacks within ten days' time, all on the left side, the last of which was again followed by paresis of the left external rectus muscle. The paresis of the muscle this time lasted three weeks, after which it had entirely disappeared. Shortly after this attack the patient passed from under observation, so that the subsequent history is not known.

Memphis Medical Monthly

September

115 Limitations of the Clinical Laboratory. W. Krauss, Memphis.
116 Observations on the Arylarsonates. E. H. Martin, Hot Springs, Ark.

117 Lesions of the Spinal Cord, with Report of Cases. G. G. Buford, Memphis.
118 Analysis of 1,300 General Anesthesias. W. C. Campbell, Memphis.

Medical Herald, St. Joseph, Mo.

September

119 *The Mastoid Operation. C. Williams, St. Paul, Minn.
120 *Osteomyelitis. F. H. Clark, El Reno, Okla.
121 Injury of the Ureters During Abdominal Operations. W. T. Elam, St. Joseph, Mo.
122 Aconite Poisoning. J. D. Seba, Bland, Mo.
123 Treatment of Gonorrhea and Cystitis. W. T. Marrs, Peoria Heights, Ill.

119, 120. Abstracted in The Journal, May 8, 1909, p. 1536.

Ophthalmic Record, Chicago

September

124 Congenital Absence of Abduction and Adduction; Voluntary Recession of the Globe with Simultaneous Contraction of the Lid Fissure. A. Murray, Chicago.
125 Modification of the Usual Method [illegible] of the Canaliculi and Lachrymal [illegible] Dr. Agnew's Canaliculus Knife. [illegible]k.
126 Experiences with Dr. Sutcliffe's [illegible] New York.
127 *An Ophthalmologic Phase of the Dangers of Consanguineous Marriages. W. C. Posey and A. C. Sautter, Philadelphia.

127. Published in the *Pennsylvania Medical Journal*, June, 1909.

The Therapeutic Gazette, Detroit

September

128 The Methods for the Relief of Organic Stricture of the Urethra in the Genitourinary Surgical Department of the Jefferson Hospital. O. Horwitz, Philadelphia.
129 The Value of Phenolphthalein from a Therapeutic Standpoint. A. L. Benedict, Buffalo, N. Y.
130 Personal Experience with Acute Anterior Poliomyelitis. R. T. Barnett, Lewistown, Pa.

Woman's Medical Journal, Cincinnati, Ohio

September

131 The End-Results in Six Hundred Cases of Chronic Middle-Ear Suppuration. J. E. Sheppard, Brooklyn.
132 Instrumental Injury of the Urinary Tract. J. F. Todd, Brooklyn.
133 Pellagra: Report of Nine Cases. E. D. Bondurant, Mobile, Ala.

Southern California Practitioner, Los Angeles

September

134 The Necessity for Correct Refraction. M. M. Cloud, U. S. Army.
135 Appendicitis—Its Surgical Treatment. E. A. Bryant, Los Angeles.
136 The Economics of Ophthalmia Neonatorum. G. H. Kress, Los Angeles.
137 Ophthalmia Neonatorum Complications and Treatment. F. D. Bullard, Los Angeles.
138 The Prophylaxis of Ophthalmia Neonatorum. E. M. Lazard, Los Angeles.
139 A Glance at the Past and a Glimpse of the Future. E. S. Godfrey, Phoenix, Ariz.
140 United States Camp of Instruction for National Guard Medical Officers, Presidio of San Francisco, July 29 to Aug. 11, 1909. C. W. Decker, Los Angeles.
141 The Physician and His Duty to Himself. E. B. Ketcherside, Yuma, Ariz.
142 The Gastroscope. H. H. Souttar, London, England.
143 The Use of the Gastroscope. T. Thompson, London, England.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

September 18

1 *Abscess of the Brain in Association with Pulmonary Disease. G. I. Schorstein.
2 The Temperature as a Guide to the Treatment and Prognosis of Pulmonary Tuberculosis. S. V. Pearson.
3 Clinical and Pathologic Aspects of a Series of "Doubtful" Tumors of the Breast. T. B. Henderson.
4 *Peau D'Orange in Acute Mammary Carcinoma: Cause and Diagnostic Value. A. Leitch.
5 Gangrenous Femoral Hernia with Secondary Resection of Bowel and End-to-End Anastomosis: Recovery. R. D. Mothersole.
6 Scarlet Fever or Influenza? A. Dunlop.
7 Open Method of Treating Wounds After Skin Grafting for First Twenty-four Hours. G. W. Davis.

1. **Abscess of Brain.**—In this paper are recorded 19 cases of cerebral abscess in association with pulmonary disease which have occurred at the Brompton Hospital for Diseases of the Chest during twenty-two years (1882-1904), and at the London Hospital during ten years (1894-1904). It is interesting that in the enormous number of post-mortem examinations at the London Hospital, considerably over 10,000 in the last ten years, there were only 2 cases of cerebral abscess in association with lung disease (apart from pyemia), 1 following on bronchiectasis and 1 on empyema. The 19 cases of cerebral abscesses occurred in association with the following pulmonary diseases: bronchiectasis, 14 cases; empyema, 3 cases; abscess of lung, 1 case; emphysema and bronchitis, 1 case.

4. **Peau D'Orange in Acute Mammary Carcinoma.**—The name *peau d'orange* is descriptive enough to one who has seen it, but to those who have not noticed the condition it may not convey much impression, for orange skin is very variable and the irregular pitting and puckering of the latter might very well describe the fairly common appearance of the skin in cancer of the breast when it is affected by contraction of a growth underneath. In acute carcinoma, on the other hand, the skin has minute pits occurring very regularly, about a quarter of an inch apart, giving the appearance as if the skin had been jabbed with a blunt pin. The thickening of the skin is due to changes in the corium. These changes are the results of lymphatic permeation and consequent lymph stasis. The corium is expanded and the overlying epithelium is raised above its normal level by the pressure, except at those places where it is bound down by the insertion of a hair follicle deep in the corium, where it is moored, as it were. Taking into consideration the already known cause of pitting in brawny arm and this same explanation advanced for the similar condition, *peau d'orange*, in the breast, it seems reasonable to Leitch to argue that where we get the condition it must be due to lymph stasis caused by blockage of the lymphatics. There is no disease of the breast at all likely to produce this appearance other than cancer. Thus even in the absence of other signs a diagnosis of acute mammary cancer from this alone would practically be certain.

British Medical Journal, London

September 18

8 Syringomyelia (Sacrolumbar Type), Occurring in Brother and Sister. J. M. Clarke and E. W. H. Groves.
9 *Oral Sepsis with Peculiar General Symptoms. C. W. Smith and A. E. Barnes.
10 Apparently Acute Simple Febrile Erythema. D. S. Davies.
11 Facial Wrinkles and Character Expressions. W. A. Hollis.
12 *Facial Paralysis. H. H. B. Cunningham.
13 *Multiple Plexiform Neuroma Associated with Brown Pigmentation of the Overlying Skin. C. E. Reynolds.
14 So-Called Delayed Chl[illegible]e L. Carey.
15 Treatment of the Sma[illegible] for Intestinal Obstruction. C. H. [illegible]
16 Functional Neuroses of Children. J. A. Cotts.
17 The Surgery of Infancy. J. H. Nicoll.
18 *Myxosarcoma of the Prostate in a Child. G. H. Edington.
19 Pneumococcal Peritonitis: Study of Twenty Cases. E. S. Carmichael.
20 Early Radical Operation in Exomphalos. M. Smith.
21 The Association of a Patent Funicular Process with Certain Forms of Hydrocele. R. C. Dun.
22 *Madelung's Deformity. A. MacLennan.
23 Median Harelip. R. C. Dun.
24 *Abdominal Tuberculosis in Young Children. A. Dingwall-Fordyce.
25 *Value of New Tuberculin (T. R.) in Surgical Tuberculosis. D'A. Power.
26 Persistence of Protozoal Tropical Diseases in Man. C. W. Daniels.
27 Feeding and Treatment of Children in the Tropics. W. C. Brown.
28 Treatment of Chronic Dysentery with Special Reference to Surgical Treatment. J. Cantlie.
29 Life-History [illegible] A. T. Ozzard.
30 Etiology and [illegible]iculitis. A. Castellani.
31 Is Punos Kal[illegible]
32 [illegible]s. A. Castellani.
33 [illegible] in Verruga. P. W. Bassett-Smith.
34 [illegible] Chiene and D. W. Buxton.
35 [illegible] After Spinal Analgesia. A. E. Barker.
36 Action of Cresotinic and Toluic Acids. R. May.
37 The Quack Medicine Traffic. J. C. McWalter.

9. **Oral Sepsis with Peculiar Symptoms.**—The patient presented symptoms which strongly suggested quartan malaria, infective endocarditis and Henoch's purpura; but on the extraction of several teeth promptly recovered. A suppurative gingivitis, to which attention was directed by a toothache, was responsible for the entire disturbance.

12. **Facial Paralysis.**—Subsequent to chronic otorrhea, Cunningham's patient developed facial paralysis, first on one side, then on the other, at an interval of almost twelve months. A complete postaural operation on both sides was productive of cure.

13. **Multiple Plexiform Neuroma.**—A female child, aged 5 years and 4 months, presented a swelling of the left side of the neck behind, extending from the left superior curved line of the occiput above, down over the complexus as far as the level of the first dorsal spine below, and extending round in front as far as the anterior border of the left sternomastoid muscle at the middle of its length. Posteriorly, the swelling was limited to the left side of the neck by the ligamentum nuchæ. Soft and semisolid to the touch over the occipital bone, the tumor below was found to consist of firm masses, feeling like glands, ranging in size from a hazel nut to a pea, and more or less bound together by adhesions. The growth was thickest between the posterior border and the upper third of the sternomastoid and the outer border of the complexus. The skin over the entire tumor, with the exception of the occipital part, was stained brown. This stain was most marked over the prominent belly of the complexus, but extended as far as the middle line of the neck in front and also lower than the tumor below, becoming fainter and mottled at the edges. The opposite side of the neck was faintly pigmented. The pigmentation was first definitely noticed at the age of 2 years. (The mother was clear on this point, as friends used to remark that she had omitted to wash the child's neck.) It began at what is now the upper part of the stain behind, and extended slowly downward and forward. It was not until more than a year later that a swelling was noticed to commence beneath the upper part of the pigmented skin. There was no pain, but slight tenderness, which increased, neither had the child suffered in general health. The child had enlarged tonsils, but no other physical signs to aid or complicate diagnosis. The family history was negative. At operation the tumor was seen to consist of lobulated masses of fibrous tissue held together by strands, and almost inextricably mixed up with the muscle fibers. Microscopic sections showed bundles which resembled normal nerve bundles.

18. **Myxosarcoma of Prostate.**—Edington's patient, a boy, was only 1 year and 9 months old. He was admitted to the hospital on account of retention of urine of a few days' duration. The abdomen was swollen generally, but markedly in the hypogastrium. Between the umbilicus and the pubes was a mass. Examination by the rectum showed that the mass occupied the pelvic cavity in front of the bowel. It was firm, resistant and smooth, and the finger could be swept all round it, except anteriorly; it was also tender. There was slight reddening of the glans and foreskin. The left thigh and knee were edematous. At the post-mortem the mass was found to be a myxosarcoma of the prostate.

22. **Madelung's Deformity.**—According to MacLennan, Madelung's subluxation is not a true subluxation, but is a distortion of the joint. It is due to irregularity of growth at the lower radial epiphysis. The radius is curved either outward and backward, or forward and inward (2 cases), giving rise, respectively, to a forward or backward displacement of the hand. It affects both wrists in about 70 per cent. of the cases. It occurs most commonly in females (about 85 per cent.) during the period of most active growth. The deformity is occasionally present at birth. The irregularity at the epiphysis may be due to a variety of causes, such as trauma, rickets or disease of the central nervous system. Such lesions may occur during intrauterine life. The malady is frequently inherited and may be associated with other deformities. Secondary changes occur in the various structures at the wrist after the disease has been present for a long time. The correct treatment is a cuneiform osteotomy when the deformity is fully developed and the epiphyseal line may with advantage be included. The ulnar metaphysis should be destroyed. The slighter cases which could be righted by a simple osteotomy operative treatment is not necessary.

24. **Abdominal Tuberculosis in Children.**—An analysis of 137 cases of well-marked abdominal tuberculosis made by Dingwall-Fordyce shows that the characteristics of this condition are as follows: In a majority of cases the period of the onset of symptoms is prior to the fourth year of life. The disease is of more serious prognosis the earlier in life its incidence, and the earlier its incidence the more acute its nature. When death supervenes it usually does so within eighteen months of the incidence of symptoms, but in a small proportion of cases a fatal issue is much longer deferred. The mortality from this condition among children fed entirely on the bottle (46 per cent.) is higher than among children wholly or partially nursed at the breast for at least three months (28 per cent.). Free fluid in the peritoneal cavity is a relatively uncommon sign in patients under 3 years of age. Only in cases with free fluid in the peritoneal cavity, plus palpable abdominal masses, is an elevated temperature more common than a practically normal one; when free fluid only is detected, marked elevation of temperature is uncommon. The prognosis is most unfavorable in cases with free peritoneal fluid, plus palpable masses (67 per cent. mortality), and it is hardly less so in cases with masses or marked matting (64 per cent.). In cases with free fluid only (29 per cent.) or discrete glands (18 per cent.) the prognosis is much more favorable. A high swinging temperature, whatever the age and whatever the physical signs, is of very small evil omen; a slight elevation of temperature is of more evil omen the younger the child; absence of rise of temperature—whatever the physical signs—is usually associated with a fatal result only in younger children.

25. **New Tuberculin in Surgical Tuberculosis.**—Power's results point to the conclusion that new tuberculin, given by the mouth in small doses, is useful in the slighter cases of surgical tuberculosis. It is often sovereign against the chronic sinuses which are so often formed after operations on tuberculous tissues—troublesome cases in which the wound nearly heals but not quite, and in which it breaks down time after time on the smallest irritation. It is valuable in enlarged cervical glands which have not undergone extensive caseation or suppuration. It has failed in this crude form in Powers' hands to give any relief to patients suffering from tuberculous peritonitis, tuberculous disease of the joints, and from inflammation of the bones due to tuberculous infection.

Practitioner, London

September

38 Cancer of the Breast: Its Early Diagnosis. A. A. Bowlby.
39 Diseases of the Blood. H. B. Shaw.
40 The Serodiagnosis of Syphilis. J. E. R. McDonagh, R. Müller and G. Morawetz.
41 Vaccine Therapy in General Practice. J. C. MacWatters.
42 *Etiology of Hernia. W. Sheen.
43 Rheumatoid Arthritis: Its Clinical Aspects, Diagnosis and Treatment. E. A. Dent.
44 Chronic Indigestion Considered as a Surgical Disease. R. C. Ellsworth.
45 *Primary Lymphadenoma of the Small Intestine. W. Fletcher.
46 Acid Intoxication. T. G. Moorhead.
47 Mental Deficiency in Children. J. Dundas.

42. **Etiology of Hernia.**—Sheen discusses injury as a factor in the causation of oblique inguinal hernia, considering the question mainly from the medicolegal standpoint.

45. **Lymphadenoma of Small Intestine.**—A man, aged 30, had suffered from pain in the abdomen for two months, with occasional vomiting. His bowels had not moved for seven days. On examination of the abdomen, a sausage-shaped tumor was found in the right iliac fossa. Its lower, outer and inner edges were sharply defined, but above, toward the right hypochondriac region, the belly muscles were rigid, and the upper edge of the mass could not be determined. The tumor was not absolutely dull. It was rather tender and felt doughy. The abdomen was not distended, and was rigid only over the right side, especially just below the costal margin. By rectum the tumor could be felt by the finger. There were no physical signs of disease elsewhere. An enema was administered and a large quantity of hard feces was evacuated. The tumor did not diminish in size. On the following day the patient vomited, and the pulse became rapid and small. An examination of the blood was made, which showed a slight polymorphonuclear increase. No leucocytosis was noticed. A diagnosis of appendicitis was made and laparotomy performed. The tumor was then found to be a large intussusception; the intussusceptum was gangrenous and the sheath perforated. It was removed and the gut united by end-to-end approximation over a bone tube. The patient died two hours after the operation. The intussusception was found to consist of jejunum. There was a second smaller intussusception in the ileum. The

apex of each intussusceptum was formed by a sessile flattened plaque-like tumor. There were six of these growths in the lower jejunum and four in the upper part of the ileum. The tumor at the apex of the jejunal intussusceptum was the largest. There was one small plaque about 10 inches higher up, and the others were contained in the succeeding 6 feet of intestine. The tumors projected into the lumen of the gut from its mucous surface; their edges were covered by mucosa. The flat surfaces of the plaques were uncovered by mucosa, and the centers of the larger tumors were umbilicated. The growths varied in size from that of a shilling to that of a crown piece. They were oval in shape, their long axes being at right angles to that of the intestine. They were not situated at the mesenteric attachment of the gut, nor directly opposite to it, but were found at the side thereof. Peyer's patches were not enlarged, and there was no enlargement of the mesenteric or of other lymph glands. Microscopically, the plaques were found to consist of lymphoid tissue.

Glasgow Medical Journal

September

48 Schools for the Deaf in Scotland and Ireland, (continued). J. K. Love.
49 Extrinsic and Intrinsic Conditions Affecting School Children: Study of Schools and School Children in Glasgow. D. M'Kail.
50 *Treatment of Quinsy. D. J. Guthrie.
51 Tabes Dorsalis in a Female in which Laryngeal Crisis, Ocular Paralysis and Vasomotor Phenomena were Early Symptoms. G. A. Allen.

50. Treatment of Quinsy.—Guthrie reports a case to illustrate a method of treatment which has proved successful in his experience. The supratonsillar swelling was opened in the usual way with bistoury and sinus forceps, and a quantity of blood-stained pus evacuated. A tent was erected over the bed, and inhalation of steam with compound tincture of benzoin was given constantly—a measure which afforded the patient much relief—and a calomel purge was administered. Toward evening the swelling had slightly diminished, but swallowing was still impossible and speech thick. Ice was ordered to be sucked at intervals, and instructions given that 2 drams of brandy be administered every three hours as soon as the patient was able to swallow. On the following morning the patient could swallow with little difficulty and the edema had diminished. Temperature was 99; pulse, 85. The tonsil of the opposite side was found to be covered with yellowish spots (follicular condition). A throat spray of peroxid of hydrogen was recommended and the steaming discontinued. A mixture containing 5 minims of liquor strychninæ and 15 minims liquor ferri perchloridi to each (B. P.) dose was prescribed. Following this, the condition rapidly improved, edema and swelling diminished and the patient made an uneventful recovery.

Indian Medical Gazette, Calcutta

August

52 Melancholia in Its Relation to Homicide. G. F. W. Ewens.
53 Indian Snakebite Records in Calmette's Recent Work. F. Wall.
54 Experiences in Tuberculous Disease. J. R. Roberts.
55 Plague Pneumonia. W. A. Hossack.
56 *Operation for Total Excision of Tonsils. H. B. Mylvaganam.

56. Total Excision of Tonsil.—Mylvaganam draws the tonsil forward with a pair of small vulsellum forceps toward the middle line, then detaches the anterior pillar from the underlying tonsil with a blunt-pointed curved scissors and the whole tonsil is removed.

Annales de Médecine et Chirurgie Infantiles, Paris

September 1, XIII, No. 17, pp. 577-612

57 *Tuberculosis in Infants. (Tuberculose des nourrissons.) H. Barbier.
58 *Isolation of Contagious Cases in Children's Hospitals. (Isolement des maladies contagieuses dans les hôpitaux d'enfants.) L. Baumel.

57. Tuberculosis in Infants.—Barbier states that whatever the predominating anatomic form of the tuberculosis, atrophy and dyspeptic disturbances are constant, with marked involvement of the liver in the latter and their resistance to the best planned diet. These children are particularly sensitive to dietetic errors, especially the abuse of cows' milk, or there may be anaphylaxis for this. There may be also other general or functional signs, inflammation of the glands, enlargement of the spleen, anemia and fever—the picture is completed by the discovery of a bronchial glandular process or of involvement of the lung, especially frequent on the right side. These atypical forms of tuberculosis, inherited or not, are an overwhelming factor in infant mortality, and, with syphilis, they are the most certain and most frequent cause of atrophy of the viscera, especially of the liver, as also of many deformities of the bones which are generally ascribed to rachitis. He describes the typical and atypical forms, the latter being most frequent in the inherited variety, the nutritional disturbances possibly proving fatal without a single tuberculous lesion discoverable at autopsy. Acquired tuberculosis in infants runs a typical course similar anatomically to that in adults.

58. Isolation of Contagious Diseases in Children's Hospitals.—Baumel describes the favorable experiences at Montpellier with a series of interchangeable, single-bed, isolated rooms on each side of a corridor. At the other end of the corridor are rooms with three or four beds for convalescents; the two series are separated by a corridor at right angles. Around the outside of the pavilion is a broad piazza or terrace on which each room opens with glass or wire-netting doors. It is thus possible for the parents on the piazza to visit with the sick children in the isolated rooms without direct contact, and this humane provision has proved extremely successful. Another point important in prophylaxis is that the children are taken to the isolation rooms without the necessity for passing through other wards. The toilet, disinfecting rooms, dishes, etc., and the attendants of the isolated single rooms are entirely distinct from those of the convalescent rooms—the aim being to prevent contact in any way. The gate admitting to this ward from the street is entirely separate from the general entrance. Another point on which he insists is the necessity of keeping the little patient the entire period required for isolation: 45 days for diphtheria, scarlet fever and smallpox; 25 days for measles, and 15 days for mumps, chicken pox, etc. The schools, clinics, day nurseries, and other public places where children are assembled should not admit a child after an absence of several days until it presents a medical certificate and the required period of isolation for the disease in question has fully elapsed, counting from the beginning of the disease. He presented this article at the international medical congress, urging the adoption of a resolution protesting against any lack of individual hygiene in carrying out these measures of public prophylaxis, citing as an example a case in which a child with measles was called for by a city ambulance and taken out of bed on a winter night. Instead of compelling the patient to get up and dress, he should have been taken on the mattress, which could have been disinfected and returned. The pediatrist can never be too much on the alert, or too precise in his directions to avoid all chance for dangerous contacts; this is more important and more difficult than to disinfect, but it is the only safe prophylaxis.

Presse Médicale, Paris

September 11, XVII, No. 73, pp. 641-648

59 Congenital Cysts in the Neck. (Kystes congénitaux du cou à paroi dermo-lymphoide.) A. Broca and Masson.

Revue de Chirurgie, Paris

September, XXIX, No. 9, pp. 413-570

60 *Treatment of Hemorrhoids by Ring Excision. (Traitement des hemorroides par l'excision circulaire totale.) E. Villard and L. Desgouttes.
61 *Tetanus of the Head. (Considérations sur le tétanos céphalique.) Binet and Trénel.
62 *Subphrenic Abscess. G. Piquand. Commenced in No. 1.
63 *Review of End-Results of Operative Treatment of Megacolon. P. Duval.

60. Treatment of Hemorrhoids by Total Circular Excision.—Villard reports 24 cases in which the patients were promptly and permanently cured by the method of which an illustrated description is given. The anus is widely dilated thus bringing the ring of hemorrhoids outside; this ring is excised, the parallel circular incisions being carried along as the varicose strip is dissected. The mucosa is detached in the direction of the circular fibers of the sphincter, thus utilizing the plane of cleavage. The vessels are ligated above and the mucosa is easily sutured over the ring of raw surface left by this excision.

61. **Tetanus of the Head.**—Binet reports a case of cephalic tetanus, symptoms of paralysis and of contracture occurring together. The treatment is the same as for generalized tetanus. The mortality of this form is still 38 per cent. and it is liable at any moment to become transformed into generalized tetanus. The prognosis is graver, the shorter the incubation after the traumatism. Spasm of the glottis may prove fatal and general symptoms may develop as late as the fiftieth day after the first manifestations of the cephalic tetanus. His patient was a young man and the head tetanus developed six days after a contusion of the face. He recovered under bromid, chloral and serotherapy. No attempt was made to cauterize the wound.

62. **Subphrenic Abscess.**—Piquand here concludes his long monograph on this subject which is based on 890 cases in the literature. He discusses the history and details of the various kinds of subphrenic abscesses, classifying them according to their origin, with source, concluding with his own experience. The tuberculous subphrenic abscess is rare and is generally consecutive to tuberculous lesions of adjacent organs. In 7 cases the primary affection was in the liver; in 4 in the kidneys; in 3 the subphrenic peritonitis was the result of a tuberculous intestinal process. No examples were encountered of subphrenic abscess resulting from tuberculosis of the pancreas or spleen, but 3 authors have reported some from pulmonary tuberculosis; tuberculosis of the walls of the chest is a frequent cause of subphrenic abscess. In 5 cases the subphrenic abscess was merely one localization of a diffuse tuberculous peritonitis. In others it is possible that the subphrenic lesion constituted the primary manifestation of tuberculosis. In 31 tuberculous subphrenic abscesses only 8 of the patients recovered. In 17 cases no operation was attempted and all these patients died, while 8 recovered out of 14 operative cases.

63. **Results of Operative Treatment of Megacolon.**—Duval reviews 94 operations on record in treatment of this condition. The mortality was nearly 75 per cent. in 59 cases under medical treatment, while it was 34.2 per cent. in 35 operative cases. Eight different technics were followed in the various cases, and he compares the ultimate outcome with each. Resection of the colon has always given the best results; it is the logical treatment of these segmental lesions of the colon, but even this fails in the cases in which the dilatation recurs in another segment of the intestine, in which case all therapeutic measures are futile. In Richardson's case, the entire large intestine became dilated after three operations.

Archiv für Kinderheilkunde, Stuttgart

LI, Nos. 1-4, pp. 1-320. Last indexed July 31, p. 418

64 Histologic and Pathologic Study of Familial Amaurotic Idiocy. H. Vogt.
65 Infant Mortality at Mannheim. (Säuglingssterblichkeit in Mannheim.) S. Felsenthal.
66 Shape, etc., of the Thorax in [illegible] of the Heart in New-Born Infants. [illegible] Semiotik des Thorax in seiner [illegible] beim Neugeborenen.) G. Berti.
67 *Gastrointestinal [illegible] Disturbances in Ch[illegible] Distionsstörungen des [illegible] P. Selter.
68 Case of Complex Heart Disease in an Infant. (Fall von combinierter Herzerkrankung bei einem Säugling.) L. Baron.
69 *Acute Bone and Joint Disease in Infants. (Zur Kenntnis der acuten Knochen- und Gelenkentzündungen im Säuglingsalter.) J. Trumpp.
70 Living Child Born without Arms or Legs. (Lebende Amelosmissbildung, zugleich ein Beitrag zu ihrer Aetiologie.) H. Rosenhaupt.
71 Epidemic of Varicella. (Eine Windpockenepidemie.) B. Bosse.
72 "Psychic" Gastric Secretion in Infants. (Zur Frage der "psychischen" Magensaftsecretion beim Säugling.) H. Nothmann.
73 Case of Fetal Chondrodystrophy. H. Weinzierl.
74 Differences in Stomach Digestion during Natural and Artificial Feeding. (Unterschiede der Magenverdauung bei natürlicher und unnatürlicher Ernährung.) A. Aurnhammer.
75 Relations between Production of Milk and Fat Content. (Beziehungen zwischen Milchproduction und Fettgehalt der Milch.) Id.

67. **Gastrointestinal Functional Weakness and Functional Disturbances in Young Children.**—Selter emphasizes the importance of investigating the functioning of the digestive apparatus when children show that they are not thriving. For this, examination of the stools is imperative. He examines some of the stool obtained when the child is first seen, and from the findings in this specimen orders a test diet regulated to exclude the articles which the stool showed were imperfectly digested. Comparison of a specimen of the stool about the third day with that of the first day gives an instructive oversight of gastrointestinal functioning. He gives full details for examination of the feces and interpretation of the findings, especially insufficient mastication; excess of fat; the "carbohydrate stool" with its foamy, acid, fermentation, scraps of potato, etc., and other findings; the "meat stool" showing defective pancreatic or intestinal secretion; the "connective tissue stool," indicating impaired gastric digestion; the "constipation stool" and the catarrhal, and combinations of any of the above. Treatment based on the findings in the feces is generally successful. The aim is merely to arrange the diet so that none of the food escapes digestion, restricting or dropping entirely the substances which the child is transiently or permanently incapable of assimilating. In constipation he has obtained good results with plenty of fat and agar-agar in the form of a pudding or added to milk. The total amount of food should be limited to that strictly necessary. Rest and warmth are the main other factors, letting the child sleep late and take a nap in the day, with thermophore or hot bran cushion for local application of heat for two hours after each meal. Even when the child is up and about, he has the hot cushion worn in a pocket made for it in the waist or shirt. Abdominal massage with a wooden ball (250 gm. in weight) for ten minutes in the morning is a useful adjuvant. In the mild cases a complete cure follows but in others a certain functional weakness may persist for a long time and the diet may require this individual regulation for years to permit the child to develop normally.

69. **Acute Bone and Joint Diseases of Infants.**—Trumpp cites five examples of bacteriogenic and traumatic epiphysitis in infants.

Archiv für klinische Chirurgie, Berlin

XC, No. 3, pp. 265-542. Last indexed Sept. 4, p. 822

76 Transplantation of Joints. (Gelenktransplantation.) E. Lexer.
77 H[illegible] can Bone be Kept for [illegible]ge nach dem Tode oder [illegible]ochen bezüglich seiner [illegible] W. Bergemann.
78 O[illegible] (Stellung des Aetherrausches unter den Methoden der Anästhesirung.) P. Sudeck.
79 Experiences with Fulguration Treatment of Cancer. (Erfahrungen über die Fulguration von Carcinomen nach de Keating-Hart.) Abel.
80 Serotherapy of Tetanus. (Zur Serologie des Tetanus: Complementbindungs- und Antilysinversuche.) Kreuter.
81 Experimental Research on Spinal Anesthesia. (Rückenmarksanästhesie.) Rehn.
82 *Present Status of Lumbar and Local Anesthesia. A. Bier.
83 Seventh Case on Record of Successful Operative Treatment of Duodenojejunal Hernia. (Ueber eine operativ geheilte Hernia duodenojejunalis Treitzii.) E. Heller.
84 Suture and Skewering of Bones. (Knochennaht und Knochenbolzung.) A. Hoffmann.
85 Experimental Research on the Sensitiveness of the Abdominal Cavity. (Sensibilität der Bauchhöhle.) C. Ritter.
86 Arthrodesis by Skewering the Bones. P. Frangenheim.
87 Histology of Transplanted Bone. (Zur Histologie des frei transplantirten periostgedeckten Knochens beim Menschen.) A. Läwen.
88 Chronic Inflammatory Tumors after Abdominal Operations. E. Haim.
89 Infection of Gunshot Wounds and Their Treatment with Peruvian Balsam. (Infection der Schussverletzungen und ihre Behandlung mit Perubalsam.) Vollbrecht.
90 Experimental Study of Bactericidal Properties of Peruvian Balsam. (Bakterienfeindliche Eigenschaften des Perubalsams.) Jander.

82. **Present Status of Lumbar and Local Anesthesia.**—Bier states that in his last series of 339 cases of spinal anesthesia vomiting occurred in only 5 per cent. and pallor, nausea and brief disturbance in the pulse in only 9 per cent. Headache was noted in 6 per cent., but exclusively in women who were subject to headache. Spinal anesthesia he regards as indicated only when local anesthesia is inadequate and general anesthesia is contraindicated. He adds that the combination with the scopolamin-morphin "twilight sleep" has been applied often with good results in his clinic, although the lumbar anesthesia alone has proved sufficient even for removal of the rectum.

Klapp and Ehrhardt's suggestions have not yet led to unobjectionable results. His method of vein anesthesia, he asserts, has proved its usefulness and enables operations on the limbs to be performed absolutely painlessly. (It was illustrated in The Journal, May 1, page 1466.) The secret of success in ordinary local anesthesia for large operations, he says, lies in waiting for fifteen minutes at least before commencing. He reviews the various methods of local anesthesia, remarking that Braun's subcutaneous perineural injection on the nerve leading to the hernia has supplanted Cushing's method. The "twilight sleep" is sometimes useful as a preliminary to local anesthesia, especially for excited patients with exophthalmic goiter.

Deutsches Archiv für klinische Medizin, Leipsic

XCVII, Nos. 1-2, pp. 1-200. Last indexed Sept. 4, p. 823

91 Transient Albuminuria Following Palpation of Abdomen. (Ueber abdominell-palpatorische Albuminurie.) J. Schreiber.
92 Atherosclerosis of Gastric Arteries. (Zur Atherosklerose der Magenarterien.) W. W. Hamburger.
93 Acute Addison's Disease after Thrombosis of Both Suprarenal Veins in Patient with Gastric Cancer. (Akuter Morbus Addisonii nach Thrombose beider Nebennierenvenen.) H. Straub.
94 The Capillary Pulse. (Klinische Untersuchungen über den Kapillarpuls.) K. Glaessner.
95 Influence of Congestion in the Heart on Distribution of Blood in the Organs. (Einfluss cardialer Stauung auf die Blutverteilung in den Organen.) H. C. Thacher.
96 *Clinical Importance of Changes in the Circulatory Apparatus with Change of Position, Standing or Reclining. (Ueber die klinische Bedeutung der Veränderungen am Zirkulationsapparate, insbes. der wechselnden Herzgrösse, bei verschiedener Körperstellung: Liegen und Stehen.) H. Dietlen.
97 *Treatment of Severe Anemia with Transfusion of Minute Amounts of Human Blood. (Behandlung schwer Anämien mit Menschenbluttransfusionen.) A. Weber.
98 The Work of the Heart and the "Beat Volume." (Kritik des Albert-Müller'schen Schlagvolumens.) T. Christen. A. Müller.

96. **Changes in the Circulatory Apparatus with Change of Position.**—Dietlen tabulates the details of 66 cases in which the change in the size of the heart was most striking as the individuals reclined or stood. The normal heart grows smaller as one stands, while the pulse increases. But these changes are not observed in the elderly and in those with heart affections. It is evident that auscultation of the heart may be misleading unless the patient is examined both reclining and standing.

97. **Treatment of Severe Anemia with Transfusion of Small Amounts of Human Blood.**—Weber reports 7 cases from Voit's medical clinic at Giessen in which threatening anemia was influenced to a remarkable extent by transfusion of only 5 c.c. of human blood. No benefit was observed in a number of cases of leucemia. The transfusion of this small amount, he states, is simple and generally harmless, but in a few cases there were signs of mild disturbances after the transfusion. It seems as if the blood from certain persons displayed more toxicity than from others, three patients injected with a certain blood all presenting the same transient disturbances. It was never noticed that when two or more patients received blood from the same source, that one presented disturbances and the other did not.

Deutsche medizinische Wochenschrift, Berlin

September 9, XXXV, No. 36, pp. 1553-1592

99 *Autogenic Puerperal Infection. (Selbstinfektion in der Geburtshilfe.) B. Krönig.
100 Occurrence of Vibriones in Small Intestine and in Stool. (Vorkommen von Vibrionen im Dünndarminhalt und in den Darmentleerungen des Menschen.) Rothe and Meinicke.
101 *Hypophyseal Tumors. (Zur Diagnose und Therapie der Hypophysisgeschwülste.) Z. Bychowski.
102 *Determination and Significance of Tubercle Bacilli in the Blood Stream. (Nachweis und Bedeutung der Tuberkelbazillen im strömenden Phthisikerblut.) Schnitter.
103 Granular Form of Tuberculosis Germs in Sputum. (Granuläre Form des Tuberkulosevirus im Lungenauswurf.) E. Schulz.
104 Radical Operation for Inguinal Hernia. (Zur Radikaloperation der Leistenhernien nach Kocher.) K. Hugel.

99. **Autoinfection in Obstetrics.**—Krönig applies the term "autogenic infection" to that resulting from the bacteria physiologically present in the vagina and vulva, not brought by the obstetrician or nurse. His experience indicates that fully half of the cases of infection soon after delivery are due to aseptic or saprophytic infection of the endometrium; a very small proportion to infection of deep lacerations, and the others are due to extragenital causes. Comparison of the cases in these categories shows that as a rule the septic puerperal affection of autogenic infection runs a mild and brief course. When it is severe there is generally some special local or general predisposition. During a protracted birth the tissues may be so injured that severe infection may result, even when of autogenic origin. With transverse presentation or contracted pelvis if aid is not rendered artificially, the woman may succumb to sepsis from the autogenic infection. He ascribes the difference between the course of autogenic and exogenic infection to the difference in the virulence of the germs. Those physiologically present have been leading a saprophytic existence and their virulence has become attenuated. In exogenic infection the germs brought have generally been living as parasites in some infectious focus and this parasitic existence has enhanced their virulence. He denounces any attempt to disinfect the vagina and vulva as sure to interfere with the physiologic local defensive processes.

101. **Hypophyseal Tumors.**—Bychowski reports a case of tumor in which the bitemporal hemianopsia, the adipose and congenital dystrophy and the abnormal shadow cast by the sella turcica confirmed the assumption of a tumor of the hypophysis. The patient was a young woman and the first symptoms were impaired vision, headache and uncontrollable vomiting. Seven illustrations are given of the findings before and after removal of the tumor by way of the nose. It proved to be a cyst containing two teaspoonfuls of a brown fluid. Recovery was delayed by acute transient meningitis, but the patient was dismissed in two months and a half, entirely free from symptoms, vision 2/3 and 1/10. In all the cases on record the immediate subsidence of the apathetic depression was marked and this was also observed in the present case. The hemianopsia develops first in one eye, which aids in differentiating a tumor in the hypophysis. The development of the genital organs is also liable to be defective with hypophysis tumors, while with tumors of the pineal gland the sexual organs show a tendency to premature development. In Marburg's case the menses dated from the age of eight. Bychowski reviews the experiences of others with hypophyseal tumors and urges prompt operation as soon as the diagnosis is established.

102. **Tubercle Bacilli in the Blood.**—Schnitter has found the Stäubli technic useful for determining the presence of tubercle bacilli in the blood, and tabulates the findings in 34 cases. They were positive in 50 per cent. of 4 cases of tuberculosis outside of the lungs; in none of the 8 cases of pulmonary tuberculosis in the first stage; in 22 per cent. of 9 cases of the second stage, and in 47 per cent. of 17 cases of advanced tuberculosis. Stäubli's method was described in The Journal, Jan. 30, 1909, p. 426. He dissolves the red corpuscles of the blood by adding 10 or 15 times the amount of 3 per cent. acetic acid and then centrifugating. Schnitter obtains the blood by venesection, adds twice the amount of the 3 per cent. acetic acid solution and then centrifugates.

Deutsche Zeitschrift für Chirurgie, Leipsic

July, XCIX, Nos. 3-6, pp. 201-583

105 Congenital Habitual Dislocation of the Patella. E. Hoffmann.
106 Aneurism of the Axillary Artery After Dislocation of the Humerus. (Fall von Aneurysma der Arteria axillaris nach Luxatio humeri.) Id.
107 *Epigastric Hernia without Palpable Tumor. H. Mohr.
108 Extension in Treatment of Fractures. (Beiträge zur Extensionsbehandlung.) A. Wildt.
109 Lowering the Pelvis for Operations. (Ueber Beckentieflagerung und Schrägstellung des Operationstisches.) Id.
110 Operative Treatment of Large Inguinal Hernia in Children. (Neue Operationsmethode bei abnorm grossen angeborenen Leistenbrüchen im Kindesalter.) A. Thiel.
111 Opera[illegible] ible Inguinal Hernia in Childre[illegible] lung reponibler Leistenbrüche im [illegible]
112 *Gangrene from Local Anesthesia. (Zwei Unglücksfälle bei Anwendung der örtlichen Betäubung.) H. Strohe.
113 Varices of Anterior Abdominal Wall. (Varicen der vorderen Bauchwand.) W. Lossen.
114 Injuries of Vertebræ. (Ueber Wirbelverletzungen.) G. Berghausen.
115 Training in Speaking after Laryngectomy. (Stimm- und Sprachübungen nach Kehlkopfausrottung.) E. Hopmann.
116 *Operative Gastric Disease. (Ueber die operativen Magenerkrankungen.) Rondorf.

117 Treatment of Primary Radial Paralysis in Fractures of the Upper Arm. (Zur Behandlung der primären Radialislähmung bei Oberarmbrüchen.) Krabbel.
118 Three Cases of Gunshot Wounds of the Skull. (Zur Kasuistik der penetrierenden Schädelschussverletzungen.) H. Luxembourg.
119 Unusual Injuries of Epiphyses. (Zur Kasuistik seltener Epiphysenverletzungen.) Id.
120 *Nephropexy. Sonnenschein.
121 Fracture of Condyle of Humerus. (Ueber Condylenbrüche des Humerus und ihre Behandlung.) H. Landwehr.
122 Dislocation of the Head of the Radius. (Luxation des Capitulum radii.) F. Lohmüller.
123 Operative Treatment of Oxycephalus. (Zur Frage des operativen Eingriffs bei Turricephalie.) Vorschütz.
124 Freund's Operative Treatment of Emphysema of the Lung. (Zur Freundschen Thoraxoperation beim Lungenemphysem.) C. Rath.
125 *Castration in Treatment of Mammary Carcinoma. F. Cahen.
126 Experimental Deforming Arthritis. F. Kroh.
127 Isolated Fractures of Great and Lesser Trochanter. J. Feinen.
128 Congenital High Scapula. (Ueber angeborenen Schulterblatthochstand.) W. Junger.
129 Treatment of Fractures of the Leg. (Zur Behandlung der Unterschenkelbrüche.) Schrecker.
130 Resection in Treatment of Tuberculosis of the Ankle. (Die Resektion bei Fussgelenkstuberkulose nach Bardenheuer.) F. Frank.
131 Diagnostic Importance of Roentgen Examination in Ear and Nose Disease. (Was leistet das Röntgenverfahren auf otiatrischem und rhinologischem Gebiete für die Diagnose?) Jansen.
132 Experimental Research on Incarcerated Hernia including Two Loops. (Tierversuche zur der Frage der "zwei Darm- [illegible] Bruch," der retrograden Darmen W," der Gangrän der Ver- [illegible] enstein.
133 R[illegible] Cyst, Simulating Syndrome of [illegible] tti.
134 Ganglioneuroma of the Knee. E. Hagenbach.

107. Epigastric Hernia Without Palpable Tumor.—Mohr has had two cases of this kind in the last few years and describes the difficulty in diagnosing the true cause of the stomach disturbances which were long ascribed to nervous dyspepsia, gastric ulcer, gall-stones or neurasthenia. The patients were men of 34 and 40 and one had had two previous operations performed for supposed abdominal hernia, but the pains soon returned. They seemed to radiate from a certain spot behind the old cicatrix, and at this point the omentum had been drawn out into a peak, the tip of which had grown to the abdominal wall in one case without actual hernia. This peak was resected and the patients' disturbances were cured. The diagnosis is suggested by the history of the disturbances and exacerbation of the pain with certain movements, bending over, sneezing, etc. Stomach disturbances with localized tenderness in the median line should always suggest hernia in men whose occupation requires rapid bending and stretching of the trunk or lifting weights. These repeated traumatic injuries predispose to hernia but are seldom heard of in connection with true stomach affections. It is difficult to distinguish between an epigastric hernia and gastric ulcer, but the lack of connection of the pain with the taking of food, the unimpaired appetite during the intervals of freedom from pain, speak in favor of the former as also the localized center for the radiating colicky pains, the aggravation of the disturbances by physical effort, and their subsidence on reclining. The hernia occurs most often in hard-working men while gastric ulcer is most frequent in anemic girls. An exploratory laparotomy is indicated on suspicion of hernia with severe disturbances, and the prompt cure of the trouble by the operation confirms the diagnosis even if no actual hernia is discovered.

112. Gangrene After Local Anesthesia.—In the first of the two cases reported, the great toe became gangrenous four days after an operation under local anesthesia for an ingrowing nail. In the other case a hydrocele was operated on under novocain-adrenalin and gangrene of the scrotum developed. Both patients were elderly and there was a suspicion of arteriosclerosis. The salt solution used was unusually strong, owing to a mistake, and experiments with this solution showed that the addition of the adrenalin favored the production of gangrene. Strohe warns that the salt solution should never be stronger than 0.9 per cent., approximately the same osmotic tension as that of the blood.

116. Operative Stomach Disease.—Rondorf expatiates on the advantages of an exploratory operation in obscure gastric affections and relates the good results of operation in 5 cases of gastric ulcer, 7 of gastroptosis or gastrectasia, and 2 of inoperable carcinoma treated by anterior gastrostomy. His experience shows that an apparently inoperable tumor may prove to be operable when exposed, while some which seem to be insignificant are found inoperable. Radical resection is preferable to gastroenterostomy for cancer of the pylorus, he thinks, as this gives a chance for permanent cure while with gastrostomy the patients are still tormented with pains. Resection is indicated, he declares, whenever no metastases can be discovered elsewhere. The size and extent of the tumor are no contraindication, but the operation should not be deferred, even if the patient seems to be doing well under internal measures, until he becomes too debilitated for successful intervention. The surgeon should not hesitate to operate even in advanced and apparently desperate cases, as he can do much good with extensive resection; gastrostomy alone is merely a kind of protracted euthanasia.

120. Nephropexy.—Sonnenschein describes the technic which Bardenheuer has been applying during the last ten years with good results. Seven of the twenty patients thus treated have been under observation for three years or more and the kidney still maintains its normal position with the cure of the previous disturbances. He aims to fasten the kidney as high up as possible, making an ample recess for it, and fastening it there by the adhesions that result when the adipose and fibrous capsules have been slit over the convexity of the kidney and drawn together again. Granulation is stimulated by a tampon below and the whole is strengthened by a muscular support made from the half of the quadratus lumborum which is turned over upward and on which the lower pole of the kidney rests. An important factor in the complete cure is the strict bed rest imposed for six weeks.

125. Importance of Castration in Treatment of Mammary Carcinoma.—Cahen has applied this measure in 7 cases of mammary carcinoma as he relates in detail. In the first case a woman of 27 had noticed a hardening of the right breast for a year before it was removed with the enlarged adjoining glands. A month later castration was done, after which the enlarged glands in the axilla subsided spontaneously to normal size and the patient gained 22 pounds in weight and a robust appearance, but succumbed to a recurrence by the end of the year. The results of the castration were equally marked in two other cases and the patients are still in good general health to all appearances, although excision of a recurring nodule was required in these cases. All these patients were young women with extensive cancers. He urges experimental research to determine the influence of castration on mammary cancers. The carcinoma in the breast in all his cases was differentiated with the microscope, and his experience to date has convinced him that castration should be regarded with favor as an adjuvant to local operative measures for mammary carcinoma in young women. Survival of the patient for three and a half and over five years to date in some of the cases seems to confirm this.

Jahrbuch für Kinderheilkunde, Berlin

September, LXX, No. 3, pp. 253-390

135 *Pyloric Stenosis in Infants. (Zur Frage der "Pylorusstenosen" im Säuglingsalter.) M. Pfaundler.
136 *Concentration of the Blood in Infants. (Untersuchungen der Blutkonzentration des Säuglings.) E. Reiss.
137 Action of Gastric Juice on Human and Cow's Milk. (Zur Kenntnis der Einwirkung des Magensaftes auf Frauen- und Kuhmilch.) C. Lempp and L. Langstein.

135. Stenosis of the Pylorus in Infants.—Pfaundler presents 57 pages of evidence to show that the clinical signs of stenosis of the pylorus may occur both with and without an actual organic basis.

136. Concentration of the Blood in Infants.—Reiss gives the details of twenty-one cases, mostly of gastrointestinal disturbances in infants, to illustrate the assumption that the severe syndrome in gastrointestinal catarrh in infants is in large part due to the loss of fluids in the diarrhea and, in consequence, the suffering of the tissues from the lack of water. This may be severe while yet the child shows no direct signs indicating the source of the trouble. The somnolency and convulsions, etc., in acute gastroenteritis are mainly due, he thinks, to the abnormal concentration of the blood and other organic fluids. The only reliable means of determining the actual concentration of the blood is with the refractometer. This reveals the condition without fail even when the freezing-point of the blood proves a misleading guide owing to the constant tendency of the organism to maintain its molecular concentration. In many cases in which refractometric examination showed extreme concentration of the blood, the freezing-point was approximately normal.

Mitteilungen aus den Grenzgebieten der Med und Chir., Jena

XX, No. 3, pp. 377-564. Last indexed July 24, p. 331.

138 *Gastric Sarcoma. (Sarkom des Magens.) H. Ziesche and C. Davidsohn.
139 *Nature and Importance of Cammidge Pancreas Reaction. J. E. Schmidt.
140 Sensibility of Certain Internal Organs. (Experimentelle Untersuchungen über die Empfindungen in der Schlundröhre und im Magen, in der Harnröhre und in der Blase und im Enddarm.) R. Zimmermann.
141 Measurement and Clinical Significance of Muscle Tonus. A. Exner and J. Tandler.
142 *Symptoms in Incipient Pneumonia Simulating Appendicitis. (Ueber perityphlitische Symptome — Pseudoappendicitis — im Beginne der Pneumonie.) E. Melchior.
143 *Treatment of Spastic Paralysis by Resection of Posterior Spinal Nerve Roots. (Behandlung spastischer Lähmungen mittels Resektion hinterer Rückenmarkswurzeln.) O. Foerster. (Die Technik der Foersterschen Operation.) A. Tietze.

138. **Gastric Sarcoma.**—In this communication from Breslau 3 cases are reported in detail and compared with 146 collected from international literature which are tabulated in 14 groups. Operative treatment was applied in 52 cases and the ultimate outcome was about the same as with carcinoma. The course of a gastric sarcoma seems to be rather shorter than that of a carcinoma, averaging not over 17 months and still less for the spindle-celled and round-celled varieties, although for the less malignant myosarcoma it averages 3 years and 4 months. The tables and bibliography include 3 cases published in THE JOURNAL (Baldy, Dock and Howard), 1898-1902.

139. **The Cammidge Pancreas Reaction.**—Schmidt applied this test in 14 cases of gastric cancer or pancreatitis, the findings in some having the value of an actual experiment on account of the pancreas having been injured in operating on other organs. In addition to this he conducted research on cats and dogs and gives the details of 29 different series of tests. His conclusions emphasize the importance of this test, although his research has shown that the reaction is not specific for pancreatic affections, but occurs as the result of destruction of substances with nucleoglycoproteid content. The pancreas being richest in pentoses gives the reaction the most readily, but it may be observed also in other affections accompanied by considerable destruction of tissue and especially of nuclei. A single negative response should not be regarded as conclusive, and a positive response does not indicate exclusively a pancreatic affection. But as those affections which are also liable to give a positive reaction (pneumonia, appendicitis with diffuse peritonitis) are generally so readily differentiated from pancreatic disease there need be little confusion on this account. A positive response with suspicion of a pancreatic disorder is strong corroborative evidence. (The technic for the Cammidge pancreatic reaction was published in THE JOURNAL, Aug. 22, 1908, page 691.)

142. **Appendicitic Symptoms in Incipient Pneumonia.**—Melchior differentiates the condition by the incongruence between the slight objective signs in the region of the appendix in comparison to the intensity of the general malaise, the high fever, spontaneous pain in the chest, headache, flushed face, rapid breathing and relatively good pulse. A little cough confirms the diagnosis of pneumonia even before any physical signs in the lungs can be detected. Herpes and a preceding chill are additional evidence. He discusses further the differentiation of typhoid commencing with symptoms simulating appendicitis. A number of persons have been operated on by mistake on this account. Both typhoid and pneumonia are accompanied by prodromal discomfort, headache and slight heaviness. Dicrotism is the rule in the typhoid pulse which is relatively low, an important differentiating sign in comparison with the full, high pulse of pneumonia. The number of leucocytes is also abnormally low in typhoid in comparison to the hyperleucocytosis of pneumonia and appendicitis. Melchior does not ascribe any special prognosis to the pneumonia commencing with abdominal symptoms. In the 10 cases on record in which the appendix was operated on by mistake, only 2 of the patients died, showing the tolerance of pneumonia patients for a laparotomy. In more than half of the cases on record the rapid breathing attracted attention from the first even before the pneumonia was differentiated. The respirations increase in frequency outside of affections of the respiratory apparatus only with severe generalized peritonitis or when the diaphragm is pushed up by tympanites or effusions. An initial chill was observed in only 4 of the cases. In some on record the onset was sudden and acute; one patient collapsed on the street and was operated on at once on suspicion of perforated gastric ulcer. The prodromal discomfort which is the rule with pneumonia is seldom observed with appendicitis; here the symptoms are generally limited to the abdomen. Vomiting was a frequent early symptom in these pneumonia cases; some of the adult patients vomited several times during the first few days—a rare occurrence with pneumonia in adults, although common in children.

143. **Treatment of Spastic Paralysis by Resection of Posterior Spinal Nerve Roots.**—Foerster here presents a monograph on the causes of spastic paralysis and effects of operative treatment by resection of three or four of the posterior roots. He reports with illustrations two cases of congenital spastic paralysis of both legs with slight paresis of the arms, a case of tuberculous cervical spondylitis and another of multiple sclerosis, both with total spastic paraplegia of the legs and one of right hemiplegia, in all of which he tried this method of operative relief. In the first three cases the spastic contraction of the muscles was materially improved or entirely remedied. The results were pronounced even directly after the operation, the exaggerated reflexes being reduced to normal with cessation of the reflex movements associated with the voluntary movements. By severing the roots it was seen that the corticogenic excitability of the different muscles was still retained, so that volitional movements then became possible. After the operation the patients must be trained to use their limbs properly and they must be controlled with orthopedic appliances to prevent the limbs from assuming abnormal positions until volitional control is fully regained. The last two cases are instructive from several points of view; they show among other things that this method of operative treatment is less promising for the arms than for the legs, while it offers an encouraging outlook for severe spastic paralysis of the legs of either spinal or cerebral origin. For the present he operates only in cases in which there is nothing to lose, although he does not forget that in exceptional cases Little's disease has been known to improve spontaneously. Compression myelitis, multiple sclerosis, etc., also justify this measure, but he does not advise it in cases of mere hemiplegia except for a hemiplegic arm with pronounced spasmodic contraction and reflex comovements, especially in cases of infantile hemiplegia in which the spastic trouble is pronounced while the paretic is comparatively slight. Such cases are particularly promising. No sensory disturbances were noted in his patients after the operation nor decided ataxia, except that in one instance a pre-existing ataxia persisted to some extent. The technic is described by Tietze in detail; it does not differ essentially from any laminectomy, but is best done at two sittings. He commends the intervention as a great onward stride in the treatment of spastic paralysis. It does not restore normal conditions, but it is surprising to behold how the theoretical premises are confirmed by the effect of the operation. It is remarkable to see how a child previously entirely helpless, unable to take a step, can be put on his feet and enabled to walk after a fashion, without any direct surgical intervention on his legs. The success attained is due in large measure, Tietze declares, to Foerster's patience and perseverance in training the patients afterward to use their limbs. In one case a secondary local operation for contracture was necessary. The illustrations "before and after" show the previously helpless child now walking upstairs.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

August, XXX, No. 2, pp. 137-260

144 *Transverse Presentation, Version and Extraction. (Ueber Querlage, Wendung, Extraktion.) B. S. Schultze.
145 Stenosis of Cervix Cured by Supravaginal Resection without Disturbing Connection with the Vagina. (Fall von erworbener hochgradiger Stenose des Cervicalkanals geheilt durch supravaginale Cervixresektion mit Erhaltung der Portio.) R. Werth.
146 Significance of Glandular Hyperplasia and Hypertrophy of the Endometrium. K. Himmelheber.

144. **Transverse Presentation, Version and Extraction.**—A recent German article stated that about 2,000 children and 400 mothers lost their lives annually in Germany in consequence of transverse presentation, and these figures were denounced as excessive. Schultze here presents detailed statistics which show that the number is actually twice as high, fully 4,000 children not surviving birth on this account. Few succumb to the transverse presentation itself; the trouble is in the extraction by the foot before dilatation is complete. He urges that if the cervix is not sufficiently dilated, operative delivery by some method of Cesarean section should be given the preference. Version does not avert the danger that threatens the child, and extraction is dangerous both for mother and child. By waiting until the os is completely dilated, if the transverse presentation of the child is the only indication for version, and by patiently waiting for spontaneous foot delivery, so long as there are no indications for immediate extraction, he is positive that many of the 4,000 children who now die during delivery from transverse presentation would certainly survive. He adds that no attempt should be made to loosen the cord as this is entirely unnecessary and liable to harm the child.

Münchener medizinische Wochenschrift

September 7, LVI, No. 36, pp. 1825-1872

147 Reaction-Inducing Properties of Pure Neutral Lipoids. (Nastin, ein reaktiver Fettkörper, im Lichte der Immunitätswissenschaft.) H. Much.
148 Serodiagnosis of Hydatid Disease. (Zur Serodiagnostik der Echinokokkusinfektion.) Kreuter.
149 *The Senile Type of Epidemic Cerebrospinal Meningitis. (Der senile Typus der übertragbaren Genickstarre.) F. Reiche.
150 Histologic Study of the Hypertrophied and Insufficient Heart Muscle. M. Lissauer.
151 Camphor and Pneumococci. (Kampher und Pneumokokken.) A. Seibert.
152 Effective Element in Scarlet-Red Salve that Promotes Granulation in Wounds. E. Hayward.
153 Induced Insanity. (Ueber psychische Infektion.) C. Hermkes.
154 Ty[illegible] in Paratyphoid Infection. (Mit[illegible] bei Infektion mit Bac. enteri[illegible] ..u.
155 Extraperitoneal Cesarean Section. (Zur Frage des extraperitonealen Kaiserschnitts.) O. Kneise.
156 Endemic of Gonorrhea among Children taking Baths at a Health Resort. (Eine Gonorrhoeendemie bei Schulkindern in einem Solbad.) P. Bendig.
157 Diastolic Murmurs in Third Left Interspace Sign of Dilatation of the Aorta. (Bedeutung diastolischer Geräusche im dritten linken Interkostalraum für die Diagnose von Erweiterungen der Aorta.) P. Stein.

149. **The Senile Type of Epidemic Meningitis.**—Reiche's experience in 2 cases confirms Schlesinger's statement, based on 5 cases, that epidemic cerebrospinal meningitis runs a peculiar course in the elderly, affecting a senile type. The Kernig symptom was always pronounced, but there was slight or no opisthotonos. The latter may also be absent in cases in children under three. There was little tendency to fever in these elderly patients; in some the temperature never rose above normal. The importance of differentiating meningitis is evident not only on account of prophylaxis for others, but also on account of the prompt benefit liable to follow intraspinal injections of a curative serum. In 1 of the cases hemiplegia was almost the first symptom to call attention to the disease, and Schlesinger has reported a case in which the onset of the meningitis simulated apoplexy. One patient was a man of 61 who had fallen down-stairs and the meningitis developed after the trauma, but was not discovered until autopsy. Leyden and others have reported trauma and contusion as the exciting cause of epidemic meningitis during an epidemic. In this sporadic case, however, there must have been some intermediation of a "meningococcus-carrier." There was no herpes in either case.

Virchows Archiv, Berlin

August, CXCVII, No. 2, pp. 193-384

158 Congenital Soft or "Gap" Skull. (Der angeborene Weich- oder Lückenschädel.) Wieland. Concluded.
159 Cancer of the Thyroid. (Zur Frage der bösartigen Epithelgeschwülste der Schilddrüse.) M. Zehbe.
160 Origin of Vesicular Cells in Spleen Nodules. (Herkunft der blasigen Zellen in Milzknötchen.) S. Itami.
161 Comparatively Slight Resistance of Bones to Action of Cold. (Verhalten des Knochens gegenüber Kälteeinwirkung.) H. Kleinschmidt.
162 Peripheral Spread of Inflammations of the Spinal Meninges. (Peripherische Ausbreitung der Entzündungen der Rückenmarkshäute.) O. Appelius.
163 Research on Postmortem Burns. (Studien über Verbrühung.) O. Leers and R. Raysky.
164 Complications of Pulmonary Tuberculosis, and Distribution of Tubercle Bacilli in the Organs and Blood of the Tuberculous. (Komplikationen der Lungentuberkulose und über die Verbreitung der Tuberkelbazillen in den Organen und im Blut der Phthisiker.) G. Liebermeister.

Wiener klinische Wochenschrift, Vienna

September 9, XXII, No. 36, pp. 1227-1256

165 *Technic for Anaphylactic Seroreaction with Cancer. (Versuchstechnische Bemerkungen zum Nachweis des anaphylaktischen Temperatursturzes.) H. Pfeiffer.
166 Serodiagnosis of Syphilis in Obstetrics. (Zur Serodiagnostik der Lues in der Geburtshilfe.) E. Bunzel.
167 Portable Extension Apparatus for Fractures. (Portative Extensionsverbände für Frakturen an der oberen Extremität.) R. Frank.
168 Influenza Bacillus as Causal Agent of Cholecystitis. O. Knina.

165. **Diagnostic Cancer Anaphylaxis.**—Pfeiffer here gives the details of his technic for the anaphylactic seroreaction with cancer, described in THE JOURNAL, August 28, page 752. His experience confirms, he says, its differential importance.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXV, No. 1, pp. 1-282. Last indexed July 24, p. 333

169 [illegible] ng of Ovum. (Zur Physiologie der [illegible] äfenberg.
170 [illegible] of the Fetus. (Wachstum und Proportionen des Fötus.) C. H. Stratz.
171 *Convulsions in New-Born Infants of Eclamptic Mothers. (Eclampsia neonatorum.) P. Esch.
172 Differential Diagnosis of Liver Cystadenoma and Ovarian Tumors. (Beitrag zu d[illegible] nomen der Leber, unter [illegible] diagnose gegenüber von [illegible]
173 Ovarian Papillary Adenocarcinoma with Polypous Metastasis in Uterus. L. Arzt
174 Rubbe[illegible] mmihandschuhprophylaxe [illegible]
175 *Perma[illegible] f Cervix. (Zur Frage der [illegible] durch die Operation.) P. Reinecke.
176 Bacteriologic Study of Puerperal Fever. (Bakteriologische Untersuchungen beim Kindbettfieber.) E. Sachs.

171. **Eclampsia in New-Born Infants.**—Esch discusses the condition of children born to women in eclampsia, stating that in many cases on record the organs showed the same characteristic changes as those of the mother. Convulsions in the new-born can be ascribed to eclampsia only after exclusion of all other causes, intracranial hemorrhage, intoxication from morphin previously taken by the mother, etc. He has encountered 3 cases in which both the mother and infant presented the typical syndrome of eclampsia. This brings the number on record in accessible literature to 32, except that in 6 cases the mothers presented albuminuria alone, without actual eclampsia. The first convulsion occurred in the infants from a few minutes to forty-six hours after birth, and the convulsions lasted from thirty seconds to ten minutes. The intensity of the convulsions did not seem to parallel the severity of the eclampsia in the mothers, the opposite being rather the case. The infants were all at or near term, but the mortality of children of women with eclampsia is generally high; it was 22.7 per cent. in 234 cases in his own experience. Treatment of eclampsia in the new-born can be only symptomatic, avoiding irritation from without, giving small doses of bromid or chloral by the rectum, with saline-infusion and fluids to promote diuresis, and warm baths to aid in the elimination of toxins.

175. **Permanent Cure of Cervix Carcinoma.**—Reinecke calls attention to the fact that the recurrences in his experience were almost always in women who had had severe hemorrhage or prolonged suppuration during or after the operation. Out of 399 patients only 153 were in an operable condition, and recurrence followed in 76, while 42 have been completely cured for from five to seventeen years. All the recurrences developed within three years.

Zentralblatt für Chirurgie, Leipsic

September 11, XXXVI, No. 37, pp. 1283-1312

177 *Search for Perforated Gastric Ulcer. (Ueber die Aufsuchung des durchgebrochenen Magengeschwürs.) C. Ewald.

177. **Search for the Perforation of Gastric Ulcer.**—Ewald states that the perforation is almost invariably located close to the pylorus, above or below, so that it is almost always found inside an area of about 2 square inches, and this region is readily reached by lifting up the margin of the liver concealing it. The easiest mode of access he has found to be by an incision, not through the epigastric line, but parallel to it, through the right rectus muscle, pushing the longitudinal ligament toward the center. The finger is then introduced and as it pushes the longitudinal ligament toward the median line the peritoneum is incised under the guidance of the finger. The margin of the left lobe of the liver is then lifted up and the perforation generally presents; it is unnecessary to draw out the stomach in the search. Only in the rarest cases will the perforation be found elsewhere. He adds that his patients were almost all men between 30 and 50, mostly drinkers, but the few women formed no exception to this rule.

Zentralblatt für Gynäkologie, Leipsic

September 11, XXXIII, No. 37, pp. 1283-1312

178 *Improvement to be Realized in Obstetrics by General Practitioner Doing Major Obstetric Operations. (Verbesserung der Geburtsleitung durch Ausführung der grossen geburtshilflichen Operationen von Praktikern.) H. Sellheim.

179 Indications for Version with Cephalic Presentation. (Zur Indikationsstellung der Drehungen nach Scanzoni bei Vor- [illegible] mento-posterioren Gesichtslagen.) R. [illegible]

180 A [illegible] m that can be taken Apart in Position. [illegible] zweiblättriges "in situ" zerlegbares Spekulum.) H. Boshouwers.

181 Age at First Menstruation of Chinese and Japanese Girls. M. Yamasaki.

178. **To Facilitate Major Obstetric Operations by the General Practitioner.**—Sellheim urges that every general practitioner should see to it that there is some place arranged for aseptic obstetric operations, easy of access, in the neighborhood, where he can send and operate on his patients without wasting time and effort trying to transform an ordinary bedroom into an aseptic operating room. He declares that even the smallest hospital should have an aseptic maternity room; the surgeons have shown how to conquer all such obstacles. Obstetricians should profit by their initiative, and students should be trained in obstetric operations, from the smallest to the most serious. He insists that all physicians could do a certain share of such surgical work if only they had enough energy. What is right and proper for surgery is right and proper also for obstetrics. It is much wiser, he adds, to teach students every branch of practical obstetrics than to sit with folded hands and watch the present ever-widening separation of School and Practice, which will have to be corrected later.

Zeitschrift für klinische Medizin, Berlin

LXVIII, Nos. 5-6, pp. 349-524. Last indexed Aug. 28, p. 732

182 The Interchange of Gases in the Lungs in Polycythemia. (Ueber den Lungengaswechsel bei Erythrocytosis: Polycythaemia rubra.) H. Senator.

183 Elimination of Carbon in Urine. (Ueber die Ausscheidung des Kohlenstoffs im Harn.) E. [illegible]

184 Bacteriology of Blood in Febri [illegible] Untersuchungen des Blutes [illegible] G. Kiralyfi.

185 Perforation of Aneurism in Aorta into Superior Vena Cava. (Zur Kasuistik der Perforation von Aortenaneurysma in die obere Hohlvene.) L. Buchstab and M. v. Tiesenhausen.

186 Roentgen Localization of Left Auricle of Heart. (Lokalisation des linken Vorhofs des Her [illegible] L. Jaffe.

187 *Pharmacolo [illegible] Pharmakodynamik [illegible]

188 Therapeutic [illegible] Solutions of Colloidal Metals. [illegible] einiger anorganischer Hydrosole.) G. Izar.

189 Migrating Power of the Leucocytes in Various Infectious Processes. (Ueber d [illegible] der Leukozyten bei verschiedenen [illegible] C. v. Rzentkowski.

190 Lack of Proof to D [illegible] Occur from Muscular Changes in [illegible] ntact Conducting Mechanism. (Kann der Adams-Stokessche Symptomenkomplex bei intaktem Reizleitungssystem lediglich durch Erkrankung des Myokards entstehen?) A. Schmidt.

187. **Indications for Nitroglycerin.**—Dmitrenko reports 23 cases in which he studied the pharmacodynamics of nitroglycerin; its action was manifested in 16 of the cases by subsidence of the pressure in the brachial artery, while at the same time the pressure rose in the arteries in the fingers. This with other facts observed indicates, he thinks, that the drug has an elective action on the peripheral portion of the circulation. As it dilates the arterioles the resistance they previously offered to the blood stream is reduced and thus the work of the heart is lightened to that extent. If the heart is very weak and close to exhaustion the blood pressure in the finger arteries rises very little if at all. The organism responds to dilatation of the cutaneous vessels with contraction of the visceral vessels as the vasomotor innervation strives to maintain the pressure uniform throughout. The power of dilatation of the peripheral vessels determines the amount of action of the nitroglycerin. When the peripheral vessels have lost their elasticity under the influence of typhoid, tuberculous or diphtheria toxins, nitroglycerin is not only useless, but, if the heart is weak, actually dangerous. Under favorable conditions it reduces the pressure in the central portions of the circulation and increases the pressure in the peripheral, the latter feeling the effect longer. It begins to wane in from three to thirty-five minutes, but the action of the drug is still perceptible in the finger arteries by the end of the hour. It is indicated only in the cases in which the pressure at the periphery rises, while the brachial pressure drops under its influence. This phenomenon is particularly evident when the patients feel worse after administration of digitalis, which has whipped up the irritated, much hypertrophied heart muscle without removing the obstacles in the periphery.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

THE INFLUENCE OF CERTAIN DRUGS ON THE TOXICITY OF ACETANILID AND ANTIPYRIN. By Worth Hale. Hygienic Laboratory Bull., No. 53. Paper. Pp. 60. Washington: Government Printing Office.

LEUCOPATHIES, MÉTASTASES, ALBUMINURIES ET ICTERES LEUCOPATHIQUES. Par Emile Feuillié, Préparateur à la Faculté de Médecine. Paper. Pp. 196, with illustrations. Price, 6 francs. Paris: G. Steinheil, 1909.

MEDICAL GYNECOLOGY. By Samuel Wyllis Bandler, M.D., Fellow of the American Association of Obstetricians and Gynecologists. Second Edition. Cloth. Pp. 684, with illustrations. Price, $5. Philadelphia: W. B. Saunders Co., 1909.

A HANDBOOK OF MEDICAL DIAGNOSIS. By J. G. Wilson, A.M., M.D., Professor of the Practice of Medicine and Clinical Medicine in the Jefferson Medical College. Cloth. Pp. 1412, with 408 illustrations and 14 full-page plates. Price, $6. Philadelphia: J. B. Lippincott Co.

A MANUAL OF OTOLOGY. By Gorham Bacon, A.B., M.D., Professor of Otology in the College of Physicians and Surgeons, Columbia University, New York. Fifth Edition. Cloth. Pp. 492, with 147 illustrations and 12 plates. Price, $2.25. Philadelphia: Lea & Febiger, 1909.

THE PRACTICE OF MEDICINE. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania and Physician to the Hospital of the University. Cloth. Pp. 1412, with illustrations. Fifth Edition. Price, $5.50 net. Philadelphia: P. Blakiston's Son & Co., 1909.

CLINICAL MANUAL FOR THE STUDY OF DISEASES OF THE THROAT. By James Walker Downie, M.B., F.F.P.S.G., Lecturer on Diseases of the Throat and Nose, University of Glasgow. Second Edition. Cloth. Pp. 415, with 104 illustrations. Price, $3.25. New York: The Macmillan Co., 1909.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By James Nevins Hyde, A.M., M.D., Professor of Dermatology in Rush Medical College, Chicago. Eighth Edition. Cloth. Pp. 1100, with 223 engravings and 58 plates in colors and monochrome. Price, $5. Philadelphia: Lea & Febiger, 1909.

THE FIXING POWER OF ALKALOIDS ON VOLATILE ACIDS AND ITS APPLICATION TO THE ESTIMATION OF ALKALOIDS WITH THE AID OF PHENOLPHTHALEIN OR BY THE VOLHARD METHOD. By Elias Elvove. Hygienic Laboratory Bulletin, No. 54. Paper. Pp. 25. Washington: Government Printing Office, 1909.

ANNAES DA ACADEMIA DE MEDICINA DE RIO DE JANEIRO Fundada Em 1829. Tomo Setenta E Quatro Janeiro a Dezembro de 1908. Secretario Geral Dr. Ferreira da Silva. Redactores Drs. Henrique de Sa, Werneck Machado e Leonel Rocha. Paper. Pp. 215. Rio de Janeiro: Imprens Nacional, 1909.

A TEXT-BOOK OF SURGERY. By George Emerson Brewer, A.M., M.D., Professor of Clinical Surgery at the College of Physicians and Surgeons, Columbia University, New York. Second Edition. Cloth. Pp. 875, with 415 engravings and 14 plates in colors and monochrome. Price, $5. Philadelphia: Lea & Febiger, 1909.

ORGANIC AND FUNCTIONAL NERVOUS DISEASES. By M. Allen Starr, M.D., Ph.D., LL.D., Sc. [illegible] College of Physicians and Surgeons, The [illegible] University in the City of New Yo [illegible] gravings and 29 plates in colors an [illegible] Price, $6. Philadelphia: Lea & Febiger, 1909.

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Original Articles

A METHOD OF COMPLETE NEPHROURETERECTOMY IN WOMEN *

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Removal of the kidney and ureter simultaneously is closely associated with nephrectomy, an operation first planned and successfully performed by Simon, in 1869. I have failed to find by frequent surveys of the literature of this subject during the past ten years any records of nephroureterectomies that necessitate alterations in the tables and case references contained in my paper read before the Southern Surgical and Gynecological Association in 1899.[1] This table credited H. A. Kelly, of Baltimore, with performing the first nephroureterectomy, Dec. 18, 1895, for tuberculous ureter. During the following month the late A. J. McCosh, of New York, performed the operation for tuberculosis of the kidney.

ROUTES

Early in the history of this operation the two principal routes employed were the loin extraperitoneal and the transperitoneal. The greater danger of infection that frequently attends the transperitoneal route would reasonably prevent its selection. In 1901 I collected reports of fourteen cases for a paper read that year.[2] Three cases were added to these, making seventeen in all, in my paper of 1903.[3] Seven of the operations had been performed by the loin extraperitoneal, five by that route plus the vaginal and five by the transperitoneal. Kelly, Noble, Montgomery, Ill and myself have recommended the loin extraperitoneal and the vaginal, but no two recommended the same technic.

I shall not discuss the indications for removal of the lower end of the ureter, for they are probably familiar to all. In many cases exsection of the vesical portion will not be necessary, and in some even ligation of the stump of the duct next the bladder wall will not be necessary. But for dealing with the lower two inches of it, particularly for its removal in women, the vaginal incision offers the greatest facility except, possibly, in the virgin. Most operators employing these two combined routes have begun with the renal end by an incision through the tissues down to the ureter parallel to that duct, and making the vaginal incision late in the procedure.

Montgomery[4] made the vaginal opening first, having in view ligation and division of the lower end of the ureter and facilitating upward removal of the lower end by traction, but he abandoned the attempt and proceeded from the loin. Another modification made by him was the employment of the transverse loin incision of König.

Ill[5] removed the kidney through a loin incision, dissecting the ureter well down, and made a second incision in the semilunar line, just above the pubes. Through the latter the peritoneum was pushed back until the iliac vessels were reached, continuing the dissection of the ureter to the iliac artery. He then tied the uterine artery in front of his finger and the internal iliac artery behind it, opening the vagina along the line of the ureter, which was completely loosened. The ureter was finally ligated and severed and the lower part drawn into the vagina, where it was ligated next the bladder and removed.

G. H. Noble[6] removed the kidney and ureter in one piece, separating the kidney and upper portion of the ureter through the loin incision, and after separating the lower portion through a vaginal incision pulled it upward and out through the loin wound. Nov. 24, 1897, Garceau[7] did a ureterectomy, a month after a nephrectomy, in which he loosened the ureter to the broad ligament from above and then through a vaginal incision pulled the duct, severing its attachments and removing it after ligation.

Nov. 7, 1902,[3] in doing a complete nephroureterectomy, I began it by making an incision through the anterior vaginal wall to the ureter, which structure was loosened to its entrance into the broad ligament posteriorly, ligated next to the bladder and severed. Then through the usual loin incision, five inches in length in this instance, the kidney and ureter were separated and removed. In reporting this case[3] on page 320, I referred to the vaginal route being first used, as follows: "This plan I had believed to be best, and when I saw Montgomery do it, although he failed to ligate the bladder end of the ureter, I was convinced." I also recommended the König incision.

TECHNIC

I then adopted the following technic, which has been employed in each instance. Below appears the histories of four cases operated on by it.

The patient is put on the operating-table in the Simon position and the loin area prepared for operation. The preparation of the perineum, vulva, pubes and vagina as for any vaginal operation is now made. The anterior vaginal wall is next exposed and a vulsellum grasps and pulls the cervix downward and toward the introitus to locate the interureteric ligament. On the vaginal wall, exactly opposite the ureterovesical junction, will now be seen a small dimple. From the outer side of this dimple an incision is made downward and outward along the course of the ureter. It should be from one to one and a half inches in length. By careful blunt dissection the ureter is easily exposed and hooked down. If it be considerably enlarged, as it commonly is in tuberculous cases, this procedure is very easy. A metal hook or a piece of suture material is passed around it, and gentle traction made on it facilitates its liberation through the broad ligament. If it is very large, one-half to three-fourths of an inch in diameter, it may be advisable either to ligate or to clamp and sever it, after which it becomes more mobile and can be moved far outward to facilitate its liberation. If exsection from the bladder be thought desirable it may now be done, one layer of sutures being placed first, and the second, if deemed necessary, after the exsection is made and the first layer of sutures tied. A ligature is now placed on the free end of the ureter if a clamp was used.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Bovée, J. W.: South. Surg. and Gynec. Assn., 1899, xii, 14.

[2] Bovée, J. W.: Tr. South. Surg. and Gynec. Assn., 1901, xiv, 201.

[3] Bovée, J. W.: Am. Gynec., 1903, ii, 311.

[4] Montgomery: Tr. Am. Gynec. Soc., 1900, xxv, 290.

[5] Ill: Tr. Med. Soc., New Jersey, 1899, p. 83.

[6] Noble, G. H.: Am. Jour. Obst., 1900, xlii, 462.

[7] Garceau: Boston Med. and Surg. Jour., 1899, cxli, 655.

Cicatrix two weeks after operation.

The patient is next changed to the supine position, and opposite the lower pole of the affected kidney a transverse (König) incision four inches or longer is made through the extraperitoneal portion of the abdominal wall. Its inner end need not be inside the semilunar line. The kidney is now liberated and brought out through this incision and its vessels clamped or tied either before or after it is brought out. By gentle traction on the kidney the fingers are assisted in separating from surrounding structures the ureter to the pelvis, and it is pulled out of the wound with surprising rapidity and facility. If careful dissection has not been accompanied by escape of pus from the kidney or ureter or from a perinephritic abscess, little attention to drainage will be necessary. In my cases I have in two instances felt compelled to employ both loin and vaginal drainage. In the others a piece of gauze has been pushed, by means of a uterine sound, downward along the ureteral tract through the vagina and the vulva, only a strip being left in the abdominal portion of the cavity created by the operation. The loin wound in such cases was completely closed by buried animal sutures. The illustration shows the appearance of the cicatrix when the dressings were removed two weeks after operation. The gauze protruding from the vagina is usually removed fractionally by daily pulling it down after the second day. If loin drainage is used it is preferable frequently to employ the stab wound space for it and close the König incision entirely.

This plan markedly reduces the duration and traumatism of the operation, two points of great consideration in very delicate patients. It facilitates to a remarkable extent liberation of the lower portion of the ureter, provides simple and dependent drainage, permits removal of the kidney and ureter in one piece; allows closure of the wound, except when much pus is spilled; does not exhaust the patient by changing her position during the operation—often a waste of time—and simplifies the preparation of the patient for operation. It does not require any special apparatus for detection of the lower end of the ureter or for its exposure and liberation, although Hawkes[8] considers catheterization of the affected ureter an important preliminary step. The loin incision usually heals promptly and with a small cicatrix.

REPORT OF CASES

Case 1.—*Patient.*—Mrs. B., white, aged 31, primipara, was referred to me by Dr. I. F. Watkins, of Montgomery, Ala. Patient had been ill nearly two years; during this time she had suffered with an unbearable burning and aching sensation over the area of both kidneys, over the bladder and along the course of the right ureter; she had had chills, fever, night sweats and had lost considerable weight.

Examination.—An *x*-ray examination was made by Dr. Ervin, no evidence of the presence of calculi being found. She was then sent to Columbia Hospital for Women, and on July 8 an examination was made under anesthesia. The right kidney was found to be below the ribs and enlarged to one and a half times the normal size. The lower three inches of the right ureter was enlarged and nodular; the left kidney and ureter seemed to be normal in size and position. Segregation of urine by means of Harris' segregator showed tubercle bacilli of the right side, the bladder was much thickened and the urine contained pus and blood.

Operation.—On July 12, 1907, nephroureterectomy was performed. Through a vaginal incision in the right broad ligament the ureter was ligated close to the bladder and separated from that viscus and broad ligament. The abdominal incision, about four inches in length, was made transversely about two inches below the last rib and included about one inch of the anterior margin of the quadratus muscle. After isolating the kidney and the remaining portion of the ureter from above these structures were removed through the abdominal incision in one piece. The peritoneum was accidentally opened at one point not more than one-tenth of an inch in diameter, which was closed with catgut suture. With the exception of a piece of gauze running through the vulva and vagina into the broad ligament opening, no drainage was used. The right kidney was enlarged and contained a number of pockets in which was flaky and cloudy urine; the enlargement of the kidney was found to be not more than 25 to 50 per cent.; the right ureter was enlarged in some places more than others. This enlargement existed close to the bladder and one inch below the pelvis of the kidney. A slight enlargement of the vesical portion of the left ureter was noticed.

Recovery.

Case 2.—*Patient.*—Mrs. H. B., white, aged 41, had one brother who died from an unknown cause; her father died forty years ago of pulmonary tuberculosis. She has a son aged 3 with suppurating cervical glands, believed by her family physician to be tuberculous. She suffered from an abscess of the breast just after her eighth and last confinement, in February, 1907. This abscess had to be lanced several times and required four months for its cure, during which time she had chills and fever. In the following August she suffered from pain in the bladder and frequent micturition, noticing several times slight discoloration of the urine with blood. December 12 pain in the bladder was severe and she expelled from it several ounces of pus with entire relief. In January, 1908, and each month afterward, she suffered a similar attack. Frequently after August, 1907, she had noticed blood but not pus in the urine. Early in October, 1908, she suffered from another attack of chills and fever and noticed a swelling in the left side of the abdomen, and that while lying on the bedpan and pressing on the swelling pus would escape from the bladder with the urine. The patient thought that she had lost fifty pounds in weight since the birth of her child.

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[8] Hawkes, E. Z.: A Method of Complete Nephroureterectomy for Renal Tuberculosis in Women, The Journal A. M. A., Aug. 8, 1908, li, 459.

Examination.—This revealed an enlargement about six inches in length in its longest diameter in the region of the kidney and, extending from it to the bladder, the ureter was enlarged to about one and a half inches in diameter throughout its entire course. The bladder wall was much thickened. Urinalysis showed a large amount of pus, which on segregation, was limited to the affected side. Several bacteriologic examinations failed to demonstrate the presence of tubercle bacilli. Nevertheless, the diagnosis of tuberculosis of the left kidney, ureter and bladder was made.

Operation.—On Nov. 6, 1908, the kidney and ureter of the left side were removed by the method already mentioned. Longitudinal incision of the kidney after its removal showed at least ten pockets filled with thick blue pus; the ureter contained pus of the same appearance. Two sections of the kidney were examined by the pathologist who reported negatively as to tuberculosis both as to tissue and contained pus. He considered it a picture of pyelonephritic abscess formation and purulent infiltration.

The patient made a very good recovery.

CASE 3.—*Patient.*—Mrs. A., aged 25, Russian, secundipara, admitted to Columbia Hospital for Women, Dec. 3, 1907, for pain in the right side and irritability of the bladder. She had passed bloody urine and had missed three menstrual periods.

Examination.—A cystoscopic examination found the bladder mucosa markedly reddened, the bladder wall thickened, both ureters palpable through the vagina, the right being the size of a lead pencil and hard and the left smaller and not so distinct. Through the abdominal wall the right could be felt all the way to the kidney, the left was not traceable in this manner. A mass was felt in the region of the right kidney of about twice the size of that organ, as the uterus was considerably enlarged pregnancy was diagnosed, she was kept under observation until Jan. 11, 1908, when she left the hospital to which she returned at the time of the birth of her child, May 15.

She was readmitted to the hospital Oct. 20, 1908, suffering with pain in her right side, in the bladder and frequent and painful micturition. The abdominal mass had now increased to a size in excess of that of the head of a new-born infant.

Operation.—Examinations in this instance were negative as to tuberculosis, and on November 10, 1908, complete nephoureterectomy was done by the method described in this paper. The right kidney, about 10 inches in length and about 12 inches in transverse circumference, contained many separate abscesses beside purulent inflammation of the calyces and pelvis of the kidney. The pus was very thick, and in some instances granules of a pale blue color were noted. No calculi were found. The ureter was 1/2 to 3/4 inches in diameter, though having but little more than usual measurements at the lower end and one inch in diameter at the upper end. The transverse incision was directly opposite the umbilicus and about six inches in length.

Recovery.

CASE 4.—*Patient.*—M. B., aged 29, colored, multipara, was admitted to Columbia Hospital for Women, Jan. 4, 1909. She was suffering from frequent micturition attended by pain at the beginning and ending of the act, which had existed nine months. Blood had usually been noticed in the urine during the past month.

Examination.—The left kidney and ureter were slightly enlarged, the bladder thickened and inflamed and tubercle bacilli were found in the urine from that side. The daily quantity was 705 c.c.

Operation.—Jan. 19, 1909, nephroureterectomy was performed by loin extraperitoneal and vaginal routes. The peritoneum was opened for a half inch accidentally and inspected near the opening. It appeared normal and the wound was at once closed. A thickened and nodular ureter and a pyonephrotic kidney were removed in one mass and without leakage.

The patient gradually failed and died March 1, 1909. At an incomplete necropsy next day the following points were noted.

Postmortem Examination.—The parietal and visceral peritoneum were generally and thickly studded with small, white, pinhead-sized tubercles which were most numerous around the area from which the kidney had been removed and the adjacent coils of intestine. Adhesions were rather numerous and firm. A small quantity of yellow pus was present in the pouch of Douglas. The right kidney, small, soft, and somewhat injected, appeared to have undergone some parenchymatous degeneration, but there were no gross lesions of tuberculosis. The walls of the ureter were not thickened. The bladder wall was thickened and the interior studded with older tubercles and ulcers. The lungs, liver, heart and spleen were all pale, soft and bloodless, in harmony with the emaciation presented.

The Rochambeau.

CARDIAC THROMBOSIS

THE CLINICAL AND PATHOLOGIC FINDINGS IN THREE CASES *

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There has been but little added to the literature of true heart thrombi since the very complete monographs of Robinson and Welch. Desultory reports of such conditions are not uncommon, but, as Welch has pointed out, many of the observations on so-called heart thrombi are really records of postmortem heart clots entangled in, but not organically attached to, the muscle columns and trabeculæ. True heart thrombi, whether of the pedunculated or ball variety, are of such uncommon occurrence that their occasional incidence would seem to warrant study of the clinical and pathologic sides of cases in which they have been found postmortem. And this seems especially important in so far as the possibility of antemortem diagnosis carries with it a not altogether worthless bearing on the prognosis in a given case. It does not appear necessary here to point out the practical value of antemortem diagnosis of this condition with regard to the application of therapeutic measures.

The term "cardiac thrombus" must be reserved for a solid or partly solid structure, primarily formed from blood elements, which develops in one or more chambers of the heart during life. Such a mass may be attached to the cardiac wall by a more or less altered base, or may exist as a free foreign body within a heart cavity. When cardiac thrombi are measured by this standard they are uncommon postmortem findings. This applies especially to those of the free, or "ball" variety.

Of the pedunculated variety of cardiac thrombus, Welch was able to discover thirty-three cases in 1899, while a much smaller number of "ball thrombi" are on record. Flat, broad-based, mycotic thrombi are more common. They may be the beginning of either of the two varieties mentioned.

The mode of formation of heart thrombi has been long a subject of difference. The early false conception of what was really meant by true thrombi was doubtless responsible for much confusion. The closer study of recent cases, from histologic standpoints, coupled with added knowledge of the chemical interaction of certain constituents of the blood, has elucidated some of the problems which vexed the early investigators. It is now commonly accepted that while in the production of a thrombus the individual exciting causes may vary widely, there are certain basic principles to which thrombus formation within the heart conforms. The first of these principles is that some damage done to the endocardium is concerned. This may be the result of bacterial, toxic or purely mechanical agents. Whatever the individual cause, the liberation of so-called thrombokinase, acting on the thrombogen in the circulating blood, with the formation of more or less fibrin, results in blood-clotting. This clot may be minutely local or early involve gross areas. The second factor in production of thrombi appears to be that of an increase of the hemagglutinins in the blood stream. This may be brought about by bacteria, either locally involving the endocardium or freely circulating in the blood stream. It would also seem that the introduction of certain proteid poisons into the circulation might be responsible for increased agglutination of red cells, with thrombus formation. In the light of recent researches, it does not seem that the increase of blood platelets in itself has any definite bearing on either agglutination or blood coagulation. It is not impossible, however, that development of necrotic foci locally in the endocardium as a result of microbic invasion might release into the blood stream hemolytic toxins, the result of which would be an increase of the thrombokinase in the heart cavities with coincident blood clotting by acting on blood elements. The third factor in the production of thrombi is that of slowing of the blood stream. Changes in direction of the stream with the formation of eddies may also have some bearing on the formation of thrombi in certain definite localities, as, for example, in the auricular appendages or between the muscle columns of the ventricles.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

It might be of value to consider briefly the bearing of certain intracardiac and systemic conditions on the production and development of heart thrombi. The condition appears to be relatively infrequent in the majority of infectious diseases. It would seem, from tabulated statistics from various autopsy records in this and other countries, that, with the exception of influenza, tuberculosis, and perhaps rheumatism, cardiac thrombi are extremely uncommon findings in infectious disease. There is reason to doubt, however, the statement that cardiac thrombi are a rarity in syphilis, as I shall attempt to show later. Certain blood states are occasionally complicated by cardiac thrombosis, as, for example, chlorosis, leukemia and pernicious anemia. In the cachexias resulting from cancer (chronic), malaria, and the like, thrombi sometimes occur. Valvular lesions of the heart itself are usually secondary to infective processes in the endocardium. There is not uncommonly development of thrombi from such with vegetations as primary origin. Their organization and extension or contraction may be responsible for the valvular inefficiency or for insufficiency of the myocardium itself. Some writers have attempted from the meager statistics at hand to show the definite relationship of the development of heart thrombi to certain valvular disturbances. The much-quoted tables of Pawlowski would seem to demonstrate thrombosis of the left auricle was about five times as common as that of the right, and about ten times as common as in the left ventricle. Primary thrombosis of the right ventricle appears to be unknown. The usual cardiac finding, apart from general muscular insufficiency, particularly localized in one chamber wall, appears to be mitral stenosis. This applies particularly to cases of "ball thrombi." It is to be readily appreciated how obstruction at the mitral orifice mechanically alters the left auricular circulation, that chamber being especially suited to early sluggishness of its blood content. It is not infrequent, however, to find heart thrombi in the left auricle where there is no disablement of the mitral orifice—indeed, no apparent primary cardiac lesion whatever.

The thrombi are variously located. The majority spring from the septum, the foramen ovale, and the auricular appendage. It is possible, however, to have their bases at any part of the endocardium. The valve flaps do not escape. Thrombi formed with infectious vegetations as their bases may thus seriously interfere with the function of the valve flaps and aggravate, mechanically, a lesion otherwise of but moderate degree.

The condition of the arterial tree in general doubtless influences the formation of thrombi in the heart. This is especially true where a high grade of sclerosis exists generally, with the presence of atheromatous patches on the endocardium. It is to be expected, then, that the majority of cardiac thrombi are found in patients past the middle of life. This rule is not, however, absolute. Pawlowski's table shows two cases of pedunculated thrombi in patients below the age of 20, and Keating mentions the occurrence of thrombi in children afflicted with various infectious diseases.

The symptomatology of cardiac thrombosis varies with the location of the foreign growth within the heart. It is commonly admitted that, while the condition may be suspected during life, it can not be accurately diagnosed. Several authorities, notably Laennec, have held, however, that when in the course of a cardiac lesion the signs become anomalous and confused, with practical loss of the clinical picture of either definite cardiac lesion or typical cardiac inadequacy, one should suspect the possibility of thrombus formation. The signs and symptoms are those of impeded circulation. These seem to be most marked when the thrombus is located in the auricles. The thrombi located here are apt to be larger and to extend through the cardiac orifices into neighboring chambers. The inability of the more or less weak auricle wall to resist back-flow of blood and dilatation soon brings about pronounced alterations in the general circulation.

The three cases furnishing the basis of this communication occurred during the past two years at the University Hospital (Professor Dock's service). The cases were all of such interest that one might be pardoned submitting a rather full report of them. Of the three cases, the lesion was correctly diagnosed antemortem in one. Two patients were males, one female. Two were negroes. The ages were, respectively, 43, 56 and 60 years. The three cases exhibited, clinically, cardiac valvular lesions, the mitral flaps appearing to be the seat of the primary process. The reasons given for entering the hospital were shortness of breath, pain about the heart and the region of the stomach, general weakness, cough, with sputum, cyanosis, edema, and palpitation.

REPORTS OF CASES

CASE 1.—*Patient.*—L. J., negro, aged 43, gardener, entered the hospital, Out-Patient Medical Clinic, May 23, 1907, on account of extreme shortness of breath, precordial pain and distress and weakness.

History.—As is frequently the case in these patients, little could be obtained. The patient had had gonorrhea several times and there was a strong suspicion of lues. He had been well up to within two months of coming to the clinic. He then began to note weakness on exertion, shortness of breath and cough. There was abdominal discomfort in the left lower quadrant of the abdomen, although his bowels were regular. His appetite became poor and there was a tendency to belching of gas.

Examinations.—The dispensary examination revealed a rather well-built man with cyanosis of moderate grade at the ears, lips and finger tips. The heart was slightly enlarged in all directions. At the apex, the first sound was impure, and the second roughened. Both tricuspid sounds were impure, but not so harsh as the mitral sounds; the second pulmonic was very sharp and rough; there was a soft systolic bruit over the aortic area; the heart rhythm was very irregular; there was moderate sclerosis of the radials· the pulse was somewhat small, irregular and weak. The blood pressure, registered by the Stanton (12 cm. cuff) systolic 165 mm. Hg., diastolic, 118 mm. Hg. The lungs were negative.

The patient was placed on a mild diuretic and given saline cathartics. He left and was lost sight of for about a month, when he again came for examination. The shortness of breath, especially on exertion, was pronounced; there was great weakness and cough. The heart examination revealed no greater enlargement than when the patient was first seen. The sounds at the apex were now clear and distinct, and no murmurs were heard, although there was roughening of the mitral second, and both sounds were astonishingly sharp. There was noticeable accentuation of the second pulmonic sound, and a faintly heard systolic bruit was made out at the aortic area. The heart exhibited marked arrhythmia; there was no peripheral edema, nor enlargement of the liver or spleen. The pulse was small and very irregular. Strychnin and Carlsbad salts were ordered and rest insisted on. The patient then disappeared for about ten days.

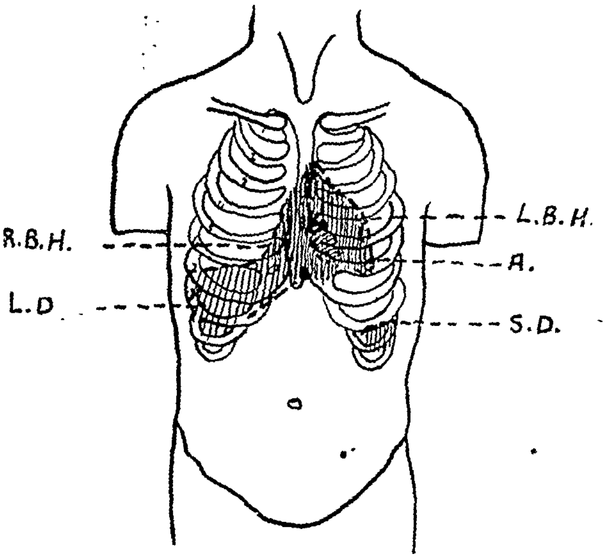

Fig. 1.—Case 1: Outlines of percussion dulness when patient entered hospital. L B H, left border of heart; A, apex beat; S D, splenic dulness; L D, liver dulness; R B H, right border of heart.

At his third appearance it was evident that he was in great distress. The cyanosis, cough, dyspnea, abdominal pain and weakness were extreme. He was ordered into the medical ward. At entry there were no murmurs heard over the precordia. The aortic sounds were very weak; the heart was somewhat enlarged in both directions (Dr. Van Zwaluwenburg); the systolic blood pressure registered with the Stanton (12 cm. cuff) 115 mm. Hg.

The patient was put to bed and his condition remained unchanged for twenty-four hours. At that time I was called to see him on account of his complaining of great pain in breathing, across the mid-epigastrium and the lower left axilla. He lay in the passive dorsal position, with eyes partly closed; his expression was anxious in the extreme; lips and ears were slightly cyanosed, but presented rather a striking degree of pallor; large drops of sweat stood on his forehead; the extremities were moist, without edema; the pupils were equally dilated, but sluggish.

Heart: Apex in fifth space, just outside the mid-clavicular line. The right border extended slightly beyond the right edge of the sternum at the fourth right interspace; the right border could not be made out higher up. The upper boundary on the left was at the upper edge of the fourth rib, in the left parasternal line; the left edge was made out about 1 cm. outside the mid-clavicular line in the fifth left space. (Fig. 1.) On auscultation the sounds were very weak at the apex; the first was murmurish. The second pulmonic was accentuated and divided. It was very difficult to make out the sounds over the base; the aortic sounds were very weak. There was moderate arrhythmia, with occasional extrasystole. The radial pulse was very small, irregular, but coincident with the heart beat. The vessels of the neck, especially on the right, were moderately engorged, but positive pulsations were not noted in the jugulars. The blood pressure was 116 (Stanton, 12 cm. cuff). Liver and spleen not enlarged.

Lungs: Pleuritic friction in the left axilla and back, with diminished resonance in both lower backs, more on the left.

Abdomen: Tense and difficult to examine, especially full in the mid-epigastrium; deep palpation impossible on account of muscle spasm throughout; there was pain on moderate pressure in the epigastrium and in the left lower quadrant. Catheterization revealed stricture in deep urethra.

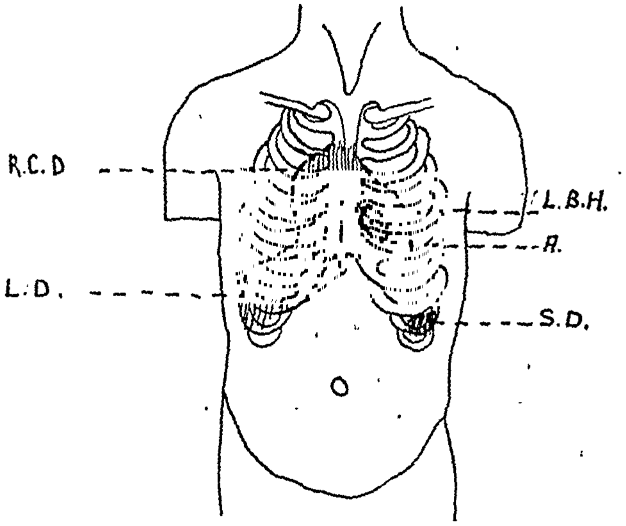

Fig. 2.—Case 1: Outlines of percussion dulness two days before death. (Postmortem: Thrombosis of right and left auricles.) L B H, left heart border; A, apex; S D, splenic dulness; L D, liver dulness; R C D, right cardiac outline to right of sternum.

The man was given morphin, enemata, and cathartics; ice was placed locally over precordia and left thorax. The following day his temperature rose to 101 F. in the morning and restlessness was extreme. It was impossible to keep the man in bed, the greatest relief being when he was walking about. His expression was frightened; his face and neck a dusky pallor and covered with huge drops of cold sweat; breathing audible and of the Cheyne-Stokes type. Bowels had not moved in spite of cathartics and enemata. Dyspnea and abdominal pain were marked. The breathing was distinctly audible throughout the ward.

The heart showed distinct changes from the day previous. (Fig. 1.) The apex beat could neither be seen nor felt. By auscultation it was made out in the fifth left space, just within the left mid-clavicular line. The heart had, however, greatly enlarged towards the right, and the enlargement was of peculiar outline, when associated with other clinical findings. In the fifth right space the right cardiac border could be made out nearly three fingers' breadths to the right of the sternum. The line of dulness extended upwards at about the same distance from the right edge of the sternum almost to the second rib, where it curved rather sharply inward to meet the sternum at the angle of Ludwig. There was slight outward bulging in the second and third spaces. This atypical rightsided enlargement of cardiac dulness was not associated with noticeable venous engorgement of neck vessels and there was no positive venous pulsation in the jugulars. Liver and spleen were negative; there was no peripheral edema. (Fig. 2.) On auscultation, the sounds at the apex were weak. A soft, blowing, systolic bruit could, however, be made out at the mitral area, the systolic bruit being well heard in the axilla and the left back. Over the tricuspid area the murmur with the first sound became louder and more prolonged. It was carried well up the left edge of the sternum. At the third left costosternal junction there was a suggestion of soft, blowing, diastolic bruit. The sounds over the base were audible with difficulty. The second pulmonic was divided, and a late diastolic bruit was made out. In the aortic area the sounds were only occasionally audible. There was marked arrhythmia—a veritable "delirium cordis." The radial pulse was barely palpable, rather quick and did not appear to differ in rate with that of the heart. The lung examination revealed pleurisy on the left with airless tissue in the back. The abdomen was still rigid and tender. The bowels could not be made to respond to purgatives or enemata.

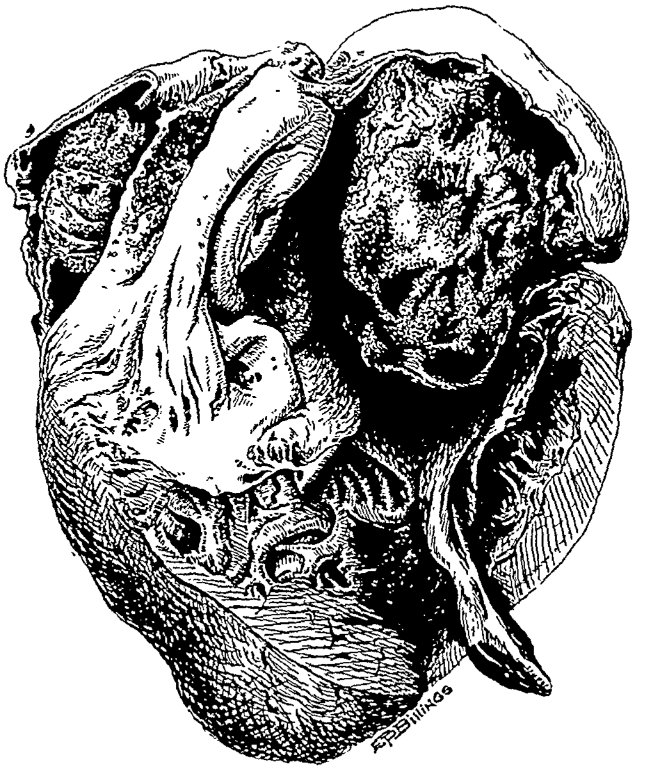

Fig. 3.—Case 1: Heart showing thrombus in right auricle extending through the tricuspid orifice into the right ventricle. (From the Pathological Museum of the University of Michigan, Specimen No. H. 46. Courtesy of Dr. Aldred Scott Warthin, Director.)

The condition described continued about the same for another day and then the patient suddenly expired while being bathed.

Postmortem Examination (Prof. A. S. Warthin, prosector).—Seven hours after death.

Clinical Diagnosis: Mitral, tricuspid and aortic regurgitation; suspected thrombosis of right auricle; pleurisy, pneumonia (terminal); nephritis; cystitis; intestinal obstruction; infarction.

Pathologic Findings: Heart: Subepicardial fat increased; small subepicardial hemorrhage on anterior surface; few on posterior surface; ventricles contracted; both auricles filled with currant-jelly clot. Right heart: Auricle enormously dilated; extended about four fingers' breadths beyond right sternal margin; muscle fibers separated. Ventricle wall measured 4 to 6 mm. On opening the right ventricle, there was seen a clot extending through the tricuspid orifice, in parts firmer than in others. The base of this clot was adherent to the wall of the right auricle, filling the ear. It was dark yellow, tough and fibrous. On cutting into this base there were cyst spaces filled with broken-down and altered blood. These older clots were gradually merged into more recent clots extending continuously through the tricuspid ring. (Fig. 3.) Left heart: In the left auricle was a large currant-jelly clot attached to a firmer organized clot in two places. The main attachment was in the ear of the auricle, and the smaller over the posterior wall. There was a rather recent thrombus at the mitral ring. Just between the mitral flaps was a firm white clot, entangled between the chordæ tendineæ and attached to the clot in the auricle. This was continuous to a clot extending to the aortic ring. At the base of the clot on the mitral valve was an area of sclerotic endocardium. The chordæ tendineæ were not retracted or thickened. The ventricular wall was light brownish-red, slightly cloudy and firm; there was slight fatty degeneration. (Fig. 3.)

Lungs: Recent hemorrhagic infarcts; (embolic) passive congestion and edema.

Pulmonary vessels: Organizing thrombi.

Liver: Extreme passive congestion; nutmeg liver and icterus.

Kidneys: Cloudy swelling; small healed anemic infarcts; recent sclerosis of renal vessels.

Adrenals: Chronic passive congestion; excessive fatty degeneration.

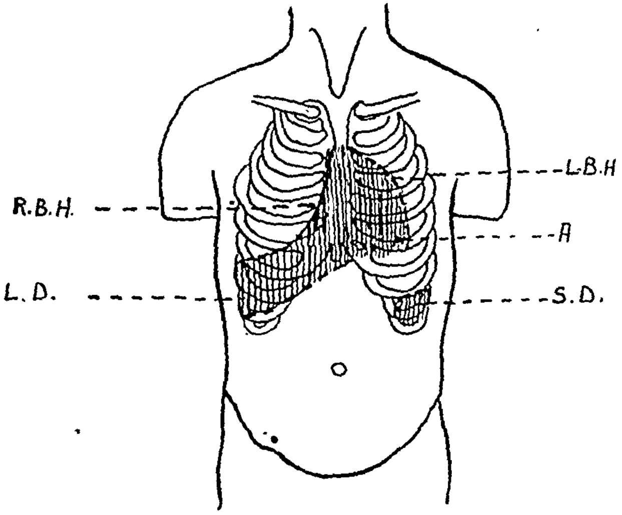

Fig. 4.—Case 2: Outlines of percussion dulness. (Postmortem: Thrombosis of left ventricle.) L H B, left heart border; A, apex beat; S D, splenic dulness; L D, liver dulness; R H B, right heart border.

Pancreas: Atrophy; sclerosis of vessels; some fatty infiltration.

Prostate: Chronic prostatitis.

Spleen: Chronic passive congestion; anemic infarction.

Pathologic Diagnosis.—Summary: Cardiac thrombosis; chronic interstitial myocarditis; obliterative endocarditis, probably syphilitic; arteriosclerosis; thrombosis of pulmonary vessels; hemorrhagic infarcts of lungs; anemic infarcts of spleen and kidneys; chronic passive congestion of all organs.

Case 2.—*Patient.*—J. B., male, aged 56, merchant, American, was brought to the hospital by his brother on account of "heart disease," "Bright's disease" and addiction to morphin and possibly other drugs.

History.—Family history negative so far as could be determined. Patient had scarlet fever as a child; diphtheria at 15 (ill six weeks; delirious); malaria in southern Missouri, at 26, and attacks continued for some time after coming to Michigan; paroxysms every other day at first, then daily; "remittent fever" at 44; denied gonorrhea and lues. Took Keeley cure at Dwight two years previous to entering the hospital and had not taken intoxicants since. Previous to that time had been a hard drinker and had taken Keeley cure twice with relapses. He had a cough for fifteen years and at times it was very severe, the patient having raised much sputum, and he said some of it was deeply blood-stained; of late had had "inflammation of the bladder" and incontinence of urine.

Examination.—A large, heavy man of asthmatic type. Skin of face sallow and dusky; slight cyanosis of lips, chin, ears, finger tips; slight edema of feet and legs; coughed frequently and raised mucopurulent sputum.

Thorax: Large, deep, short, broad. Heart: Diffuse pulsation in the region of the left nipple; apex beat not distinctly seen or felt. Dulness, on the fourth rib, outward to the midclavicular line, and inward to just beyond the right edge of the sternum, a total width of 14.5 cm. (Fig. 4.) Auscultation: Sounds very weak at apex; pulmonary second very weak; aortic second weak, with soft diastolic murmur (auscultation difficult on account of the harsh breathing; radials very small; and pulsations irregular. Lungs: Harsh breathing throughout, with occasional crackling râle; diminished resonance in the right back.

Liver dulness small.

Abdomen: Somewhat distended; dull in the dependent parts.

Blood pressure: Systolic, 152 mm. Hg.; diastolic, 108 mm. Hg. (Erlanger, 15 cm. cuff).

Urine: Small amounts of albumin with few granular and hyaline casts; pus with numerous cocci; few red blood cells.

Blood: Reds, 5,280,000; whites, 8,600; Hg. 95 per cent. Tallquist.

Sputum: Thick, tenacious, mucopurulent, copious; many large cocci in pairs; many small cocci in groups; many polynuclear leucocytes; many "heart failure cells" and some red blood cells.

The patient remained under observation for about three months. At times there were periods of considerable comfort, with frequent relapses. He finally developed extreme myocardial inefficiency, which, coupled with infarction and edema of the lung, caused his death.

Postmortem Examination (Prof. A. S. Warthin, prosector).—Twelve hours after death.

Clinical Diagnosis: Dilatation of heart; stenosis and insufficiency of mitral valve; infarct of lung; hypostatic congestion; chronic bronchitis; chronic nephritis; nutmeg liver; terminal pneumonia?

Heart: Enlarged in all directions; dilated and hypertrophied; marked dilatation and hypertrophy of left ventricle; fibrous myocarditis and hemorrhagic infarction; sclerosis of coronaries, anemic infarction of ventricular wall, near the apex of the left ventricle. In the left ventricle was a moderately large thrombus, with organizing base, attached to the ventricle wall. The ventricle was greatly dilated, and there was relative insufficiency of the mitral valves. The endocardium showed atheromatous patches; the aorta was dilated and atheromatous: the aortic flaps were thickened and stiffened. (Fig. 5.)

Lungs: Chronic passive congestion; edema; old and fresh hemorrhagic infarcts; multiple emboli.

Spleen: Chronic passive congestion; atrophy; sclerosis.

Kidneys: Anemic infarct in stage of organization; chronic passive congestion; chronic parenchymatous nephritis; multiple embolic infarcts.

Adrenal: Congestion, with marked fatty change.

Liver: Nutmeg liver; early stage of cirrhosis (in part a central cirrhosis and in part of the atrophic type), small, miliary tubercles.

Testis: Edema; chronic congestion; small cysts in epididymis; calcified thrombus.

Pancreas: Fatty atrophy; increase of interstitial connective tissue; unusually large hyperemic islands of Langerhans.

Stomach: Chronic catarrhal gastritis.

Vessels: Sclerosis; atheroma.

Pathologic Diagnosis.—Summary: Cardiac thrombosis and infarction; cardiac hypertrophy; relative mitral insufficiency; chronic congestion of all organs; hemorrhagic infarction of lungs; anemic infarction of kidney; early stage of hepatic cirrhosis; atrophy of pancreas; arteriosclerosis and atheroma (syphilis?).

Case 3.—*Patient.*—M. C., female, aged 60; negress, housewife, was sent to the hospital by her physician on account of shortness of breath, cardiac distress; chronic cough; swelling of feet and ankles and insomnia.

History.—Patient denies lues and gonorrhea; had not been ill much in life; always worked hard. About ten years ago she said she fell and broke leg; said she had had shortness of breath on exertion ever since; had had "weakness" in region of heart which prevented her moving about much or doing heavy work; about six months ago had a severe fright from house getting on fire. She became very short of breath afterward; felt very weak and could not lie down at night; ankles and legs began to swell; and recently thought that abdomen had become larger.

Examination.—Patient, a rather emaciated negress, propped up in bed, expression anxious; frequent cough; mucous rattle in throat; marked dyspnea; eyes injected; moderate cyanosis of lips, ears and extremities; tense edema to knees, with scaly eczema over legs; neck vessels injected and tortuous.

Thorax: Short, deep and broad; interspaces retracted during inspiration; thorax moved *en cuirasse;* right side below nipple much fuller than left; no Litten's shadow seen on either side; lung-liver border at seventh rib, mid-clavicular line. Percussion: Lungs, hyperresonance over both uppers with fair resonance in both axillæ. Auscultation: Large and small, moist and dry râles throughout, more especially on the left side. No alterations in voice transmission.

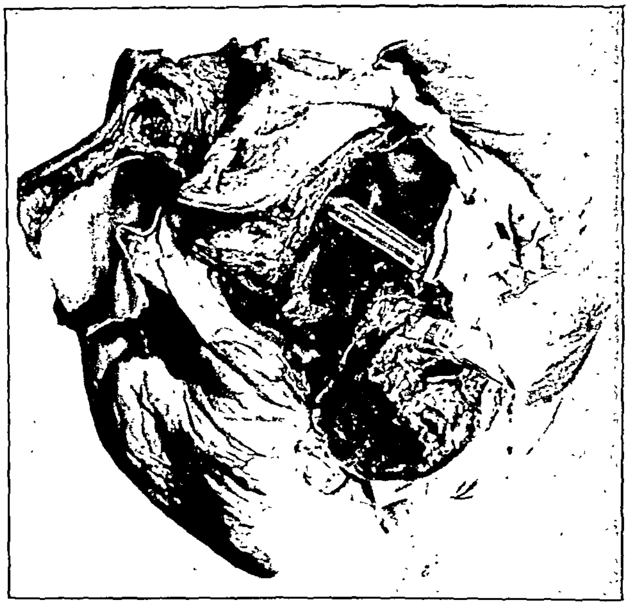

Fig. 5.—Case 2: Heart showing thrombus in left ventricle. (From the Pathological Museum of the University of Michigan. Specimen No. H. 65. Courtesy of Dr. Aldred Scott Warthin, Director.)

Heart: Apex beat in the fifth left space, 8.5 cm. from the median line; dulness extended two fingers' breadths to right of sternum in the fifth right space; one finger's breadth to right in fourth right space. The upper boundary of the cardiac dulness was at the upper edge of the fourth rib in the left parasternal line; the left edge was 11.5 cm. from the mid-line in the fourth left space. (Fig. 6.) There was noticeable pulsation in the middle line at the base of the xyphoid. Auscultation: First sound at apex was impure and occasionally divided; both features were more noticeable as one went toward the base of the xyphoid. The sounds over the base were very weak with the exception of the pulmonic second sound, which was moderately accentuated and murmurish. The radial pulse was small, quick, slightly irregular and compressible, with difficulty. The blood pressure was systolic, 242 mm. Hg.; diastolic, 168 mm. Hg. (Erlanger apparatus, 15 cm. cuff).

Abdomen: Rose three fingers' breadths above the level of the ribs; was rounded and circumference measured 92 cm. just below the navel. No pain points; no muscle spasm; no dulness in flanks. Liver, spleen and kidneys not felt. Glands negative throughout.

Urine: Slight traces of albumin, with small amounts of pus and blood.

Blood: Reds, 4,824,000; whites, 12,150; Hg. 95 per cent. (Tallq.).

Sputum: Yellow, ropy, thick and tenacious. Many polynuclear leucocytes and few heart-failure cells.

The patient was kept under observation about one month. She showed some improvement at the first part of her stay. Under appropriate medication, blood pressure became lower; orthopnea became less marked; the cardiac dulness diminished somewhat in size and the cough became less. About a week before her death she showed signs of failing cardiac action. Cheyne-Stokes breathing developed, edema of the lungs supervened and the patient died quietly. Towards the end of her illness she developed facial erysipelas. The heart again dilated, and a loud systolic bruit was audible at the apex. The sounds over the base continued weak. The neck veins became greatly engorged, particularly the left, external jugular, which pulsated noticeably.

Postmortem Examination (Prof. Aldred S. Warthin, prosector).—Performed eleven hours after death.

Clinical Diagnosis: Double mitral; cardiac dilatation and hypertrophy; tricuspid regurgitation; emphysema; pleural effusion (?), chronic congestion of kidneys; chronic interstitial nephritis; erysipelas facialis.

Heart: Pericardium adherent to border of left lung; tension greatly increased; 50 c.c. of turbid fluid in pericardial sac. The heart was enormously enlarged; there was great arching of the septum to the left; the heart lay nearly transversely. The right auricle was greatly distended and formed about one-third of the entire heart size. The position of the heart was such as to rotate the pulmonary artery to an angle of 45 degrees. Between the pulmonary artery and the aorta was a thick, tendinous spot. The heart muscle was hypertrophic, with numerous atrophic fibers, however. It showed brown atrophy. The mitral valve showed an old sclerotic endocarditis. There was stenosis of the mitral flaps, of the true "buttonhole" type. In the left auricle was a moderately large organizing thrombus, attached by a broad base, at which point the endocardium was greatly thickened. (Fig. 7.) The right heart was markedly dilated, particularly the right auricle; the tricuspids were relatively insufficient. The aorta showed atheroma, marked sclerosis and calcification.

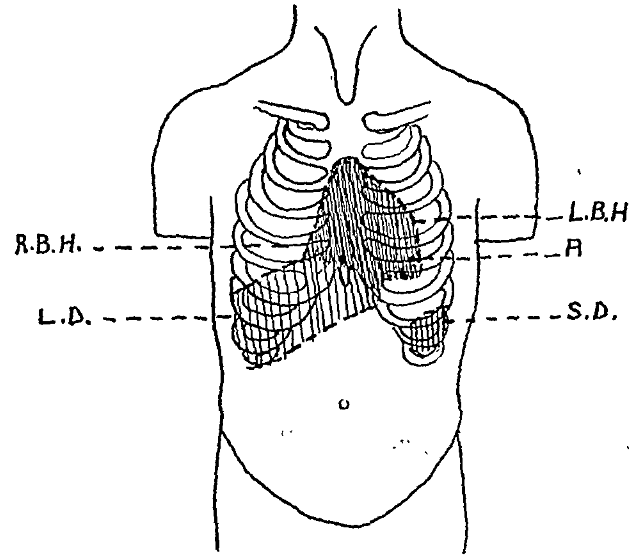

Fig. 6.—Case 3: Outlines of percussion dulness. Postmortem: "Buttonhole" mitral with thrombosis of left auricle.) L H B. left heart border; A, apex beat; S D, splenic dulness; L D, liver dulness; R B H, right heart dulness.

Liver: Extreme nutmeg liver; secondary cirrhosis.

Spleen: Atrophy and chronic passive congestion.

Lungs: Brown induration; edema; recent hemorrhagic infarcts; old calcified tubercle.

Kidney: Acute and chronic passive congestion; some atrophy and cloudy swelling; bacterial emboli in many of the small arterioles.

Adrenals: Passive congestion; atrophy.

Stomach and Intestine: Chronic passive congestion; stasis; gastritis and enteritis.

Uterine Wall: Fibroma.

Pathologic Diagnosis.—Summary: Erysipelas facialis; mitral stenosis; relative tricuspid regurgitation; thrombosis of auricle; dilatation of right heart; brown induration of lung; chronic passive congestion and atrophy of all organs; sclerosis and atheroma of aorta; healed tubercle in lung; slight goiter.

SUMMARY

Diagnosis.—The three cases here detailed present many features in common, while in certain respects they differ. The patients were past middle life. In all there was a fair possibility of syphilis. In each case the patient exhibited phenomena of cardiac insufficiency, in the main valvular. In all the cases, the mitral valves were affected. In but one was there stenosis. In this case, the stenosis was poorly manifested, clinically, with the exception of the early enlargement of the right side of the heart. In all the cases, postmortem examination showed the presence of emboli in various organs.

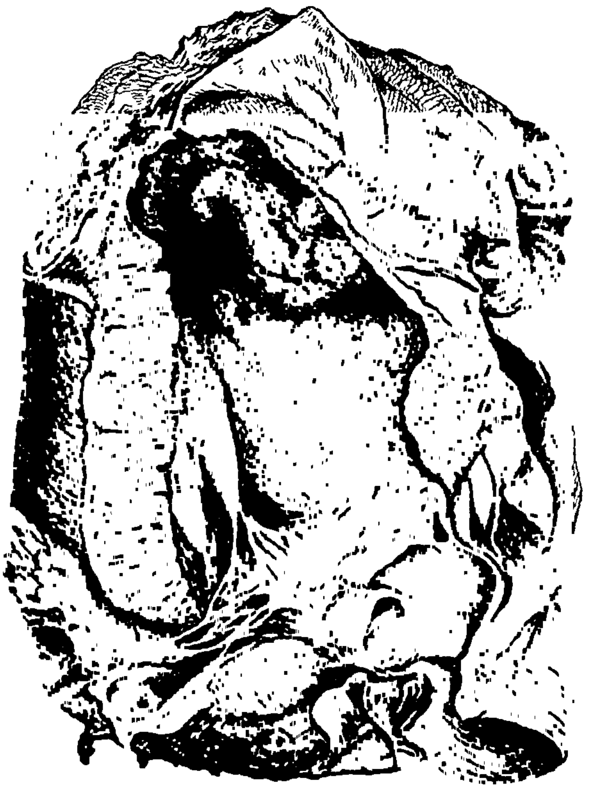

Fig. 7.—Case 3: Heart showing "buttonhole" mitral orifice with thrombus in left auricle. (From the Pathological Museum of the University of Michigan. Specimen No. H. 71. Courtesy of Dr. Aldred Scott Warthin, Director.)

With respect to the thrombi themselves, a wide distribution is noted. In Case 1, the right heart, especially the auricle, was the primary seat of the thrombus. As circulation became interfered with, the mass extended into the right ventricle. There was, however, thrombus formation also in the left auricle, with a chicken-fat clot entangled in the chordæ tendineæ and interfering, at the end, with the free working of the aortic flaps. In Case 2, the ventricular wall gave rise to the thrombus. In this case, the signs of cardiac disease pointed strongly to the aortic valve being at fault, but postmortem the valve showed little change. In Case 3 is seen the rather typical, text-book heart thrombus, with mitral stenosis, impeded circulation in the left auricle, with pulmonary congestion and dyspnea early developing, together with early enlargement of the right heart. The termination occurred with the dilatation of the right auricle after the tricuspid "safety valve" had thrown too great a strain on the weakened auricle.

Before closing I wish to call attention to certain aspects of Case 1 which rendered antemortem diagnosis of auricular thrombosis fairly possible. It will have been noted that the case first appeared with a somewhat atypical cardiac condition, namely, slight enlargement of the heart, but associated with extreme dyspnea, precordial distress and cyanosis, together with more or less pallor. Various murmurs and alterations in the character of the valve sounds were discovered, but neither murmurs themselves nor their location or propagation were definite enough to warrant the diagnosis of any particular valve lesion. After the patient entered the hospital, it was observed that prostration, precordial distress, restlessness and dyspnea, developed out of all proportion to the clinical findings in the heart itself. At the same time sudden, severe pains in the pleura, lungs and abdomen were noted—these strongly suggestive of infarction from emboli. As the case approached its termination, all the signs of failing cardiac action appeared from the point of view of the heart examination itself, but outside the heart the clinical condition was most atypical. The heart examination pointed strongly to mitral and tricuspid leakage, but extracardiac evidences were strangely lacking. Cyanosis was rarely marked; peripheral edema was extremely slight—indeed, absent till just before death; congestion of the liver, with liver pulse, was clinically absent. The spleen was not engorged. I would also call attention to the condition of the neck veins. At no time did they exhibit more than moderate engorgement, even when the signs of tricuspid insufficiency had been established for at least two days. There was absolutely no positive venous pulsation in either jugular vein, nor were positive venous pulsations noted in other veins, nor in the liver. I offer as explanation of this phenomenon the suggestion that the regurgitation wave from the right ventricle was changed in direction, or, indeed, broken up entirely, by its impinging on the large and constantly increasing heart-clot in the right auricle. So long as the auricle itself was able to propel a moderate amount of blood into the right ventricle, the circulation was maintained. It was only when the thrombus intruded on the right ventricle through the tricuspid orifice that stagnation became so great in the auricle as to bring on sudden cardiac dilatation and death. It does not appear to me that dilatation of the auricle along with sluggish blood stream could absorb, as it were, systolic pulsation from the right ventricle after the tricuspids had given way. This condition would be manifested by far greater venous congestion—in the neck veins and peripherally in the liver and extremities—than Case 1 showed. This is admirably demonstrated in Case 3, in which there was a buttonhole mitral with thrombus in the left auricle. Here the early dilatation of the right heart was promptly shown by peripheral edema, enlarged liver, and congested, pulsating veins in the neck, in addition to early enlargement of the right heart. It would seem to me, therefore, that the antemortem diagnosis of certain heart thrombi is not altogether impossible if the physical signs are carefully observed and recorded. And of these physical signs I would lay especial stress on atypical peripheral vascular manifestations with the more or less characteristic auscultation and percussion signs in the heart itself. The manifestations of embolic process should always furnish significant information.

With respect to the treatment of cardiac thrombi when the diagnosis appears likely, there can be little said. The question of how soon the case will terminate fatally is the leading one. The suspicion of a thrombus being present in the heart completely changes the picture from the prognostic standpoint, and certainly limits one's hopefulness with regard to whipping into line by drugs a heart whose compensation only appears to be failing.

In the preparation of this paper, I have been greatly helped by the kindness of Prof. A. S. Warthin, of the Department of Pathology of the University of Michigan, and I herewith express my appreciation.

305 South State Street.

A NEW AND SATISFACTORY APPARATUS FOR ETHERIZATION IN OPERATIONS ABOUT THE FACE AND UPPER AIR PASSAGES *

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The problem of satisfactory anesthesia for operations about the face and upper air passages is worthy of study. The nature of the operations is such that no inhaler or cone can be kept constantly over the face and nose of the patient. It may be necessary to keep the mouth open throughout the operation. Under these conditions it has been impossible by the usual methods to produce a smooth anesthesia.

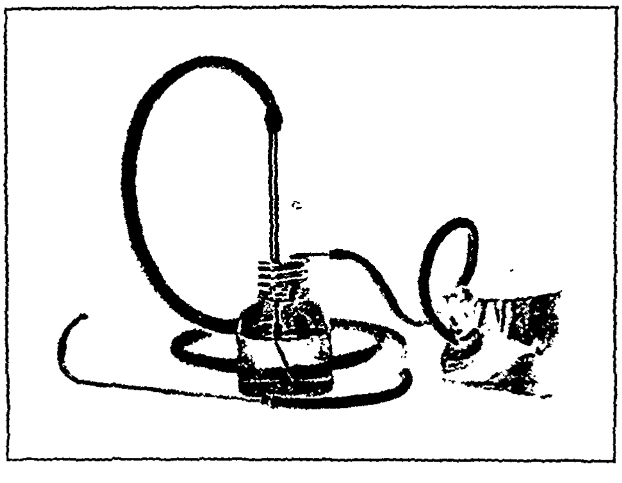

Fig. 1.—The foot pump, vaporizer and mouth tube connected.

The patients have been anesthetized in the following ways:

1. By nitrous oxid or ethyl chlorid: The anesthesia produced by these agents is too short for the majority of the operations.

2. By charging up the patient with ether and allowing him to recover partially as the operation goes on, then repeating this process as many times as necessary: This method is dangerous and seriously impedes the operation.

3. Chloroform administered with the Junker apparatus—the routine method in England: Chloroform is a dangerous anesthetic for all these operations, and especially in the adenoid cases, in which the patients are

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

often of the lymphatic diathesis and liable to sudden death from syncope. Moreover, with the Junker apparatus there is the possibility of pumping liquid chloroform or ether into the air passages of the patient. Crile's apparatus is open to a similar criticism. The apparatus of Brophy does away with this serious objection.

4. Some forms of apparatus depend on the changing temperature of a hot-water bath to vaporize the ether. The amount of ether vapor is accordingly inexact and changeable. The forms of apparatus which depend on air bubbling through ether at the room temperature do not vaporize enough ether to maintain satisfactory anesthesia.

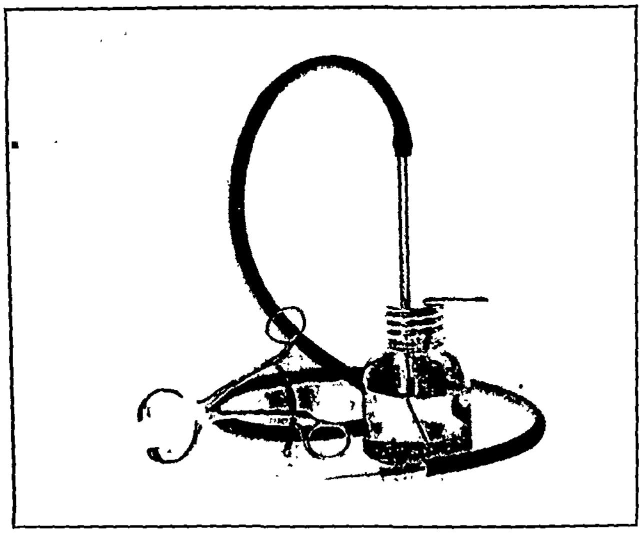

Fig. 2.—The vaporizer and the mouth gag connected.

THE APPARATUS

The apparatus here described for the first time is simple and safe. It provides for the continuous etherization of the patient and interferes in no way with the operation. It was first used on Jan. 12, 1906, and in the past three years has been employed in over 1,000 cases, including operations on the lip, tongue, mastoid, nasal septum, frontal sinuses and Gasserian ganglion, in operations for goiter, for removal of the superior maxillary bone, and for many adenoid and tonsil operations.

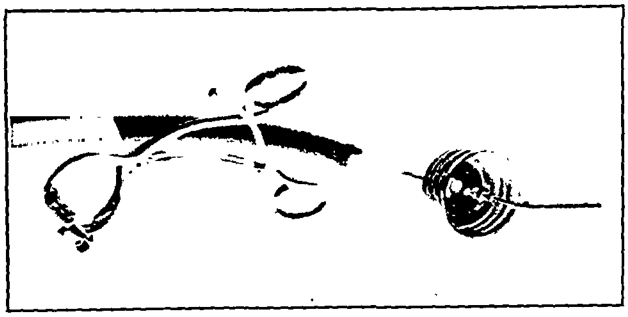

Fig. 3.—The cap of the vaporizer, showing the small atomizer arranged to spray into the outlet tube. The mouth gag.

The apparatus consists of a vaporizer, a foot pump, a mouth gag, and other accessories, together with the rubber tubing necessary for connecting these to the vaporizer.

The vaporizer consists of a glass jar, with a capacity of 8 ounces, hermetically closed by a screw cap. In the cap are fixed an inlet tube, 1/8 inch in diameter and a vertical outlet tube, 1/4 inch in diameter. Inside the jar and connected with the inlet tube is a small atomizer arranged to draw ether from the jar and spray it inside the outlet tube, which is 5 inches long. When the ether spray reaches the top of this tube it has been converted into a vapor, imperceptible except by its odor. (Fig. 1.)

This apparatus will vaporize 15 ounces of ether in an hour. As the ether is sprayed into the outlet tube and not against the side of the jar as in the ordinary nebulizer, the vaporizer is very sensitive to changes in the air pressure supplied to it. The foot pump, which supplies the air pressure for the vaporizer, may be supplanted by a cylinder of oxygen or compressed air. A hand bulb does not provide enough pressure to work the vaporizer. It is impossible to force liquid ether into the outlet tube by pumping air into the inlet tube and *vice versa.*

A rubber tube 1½ feet long connects the foot pump with the vaporizer. The outlet tube is connected by 4 or 5 feet of rubber tubing to a mouth or nasal tube. (Fig. 2.) As the ether vapor passes through this rubber tube it becomes warmed to the temperature of the operating room. This tube is divided six inches from the mouth or nasal tube, the parts being joined by a glass connection so that the short end may readily be removed for sterilization.

The mouth gag, which is made from the design of Dr. Frank B. Sprague, is not readily dislodged, does not obstruct the breathing., and in no way interferes with the operation. The handles are so curved as to be readily grasped. In one jaw of this gag is incorporated an ether tube 1/8 inch in diameter. (Fig. 3.) When the gag is placed in the left side of the mouth, the tube is in the upper jaw of the gag and its opening is directed backward toward the fauces.

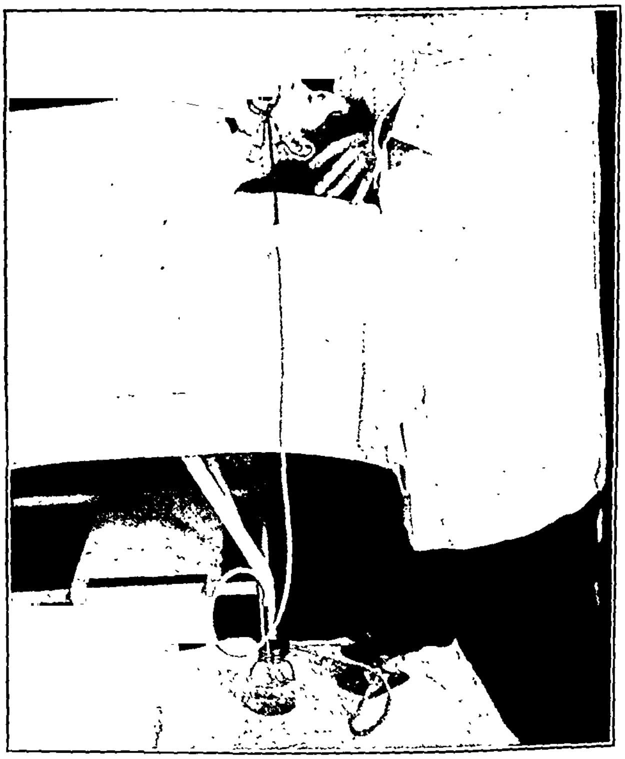

Fig. 4.—The apparatus in use for an adenoid operation.

The mouth tube is a metallic tube of 1/4 inch bore so curved that when it is hooked into the angle of the mouth, its opening is directed backwards towards the fauces. The nasal tube is a soft rubber tube 1/8 inch in diameter and 14 inches long. A mark, at a distance of 7 inches from the end, indicates the extent to which it should be introduced in an adult. From failure to notice this mark, the tube may be pushed so far into the esophagus that a gastric anesthesia results.

The Pynchon nasal tips may be used with this apparatus.

ADMINISTRATION OF ANESTHETIC

The vaporizer, filled two-thirds full of ether, is placed on the floor at the head of the operating table (Fig. 4). Care is taken to place the vaporizer where it will not be accidentally overturned. The foot pump is attached and the long tubing is brought up from the outlet tube of the vaporizer to the head of the table. The short tube attached to the gag, mouth or nasal tube is sterilized with the surgeon's instruments. Ether is, at first, administered in the usual way. When the operation is about to be commenced, the surgeon arranges to suit his convenience the gag, mouth or nasal tube. The anesthetizer connects the long tube to the short one and continues to administer ether by working the foot pump at a greater or less rate of speed.

It is necessary to notice constantly through what channel the patient is breathing. It is almost useless to pump ether vapor into the mouth of a patient who is breathing through the nose and *vice versa*. In a frontal sinus operation, when the anesthetic vapor has been considerably diluted by air coming through the open sinus, the closing of the sinus in the course of the operation is quickly followed by increased depth of anesthesia. During the early stages of the adenoid operation the patient is breathing entirely through the mouth, and no trouble is found in maintaining anesthesia by the tube in the mouth gag (Fig. 4). As the nasal passages are cleared, however, nasal breathing may so dilute ether vapor that the patient may begin to recover consciousness. It is then sufficient to cover the face with a towel while the vaporizer is worked for a few minutes and complete anesthesia is restored.

Considerable experience with this apparatus warrants the conclusion that, with careful attention, it solves the problem of satisfactory anesthesia for operations about the face and upper air passages.

[THE DISCUSSION ON THIS PAPER IS ON PAGE 1381.]

VAGINAL HYSTERECTOMY

A NEW OPERATIVE TECHNIC TO ESTABLISH A SOUND PELVIC FLOOR AND TO PREVENT CYSTOCELE *

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I intend to present in this paper a new technic that will prevent cystocele following vaginal hysterectomy.

The etiology, symptomatology and diagnosis of the various pelvic lesions calling for some radical gynecic procedure will not be considered at this time.

GENERAL CONSIDERATIONS

The gynecologist of to-day recognizes and, with few exceptions, makes use of three methods of removal of the diseased pelvic organ.

(a) Abdominal hysterectomy.
(b) Vaginal hysterectomy.
(c) Vagino-abdominal hysterectomy.

Each of these methods has its specific indications, though, unfortunately, the method of choice is more frequently determined by the prejudices and experience of the operator than by the anatomic and pathologic indications of the patient. The vaginal route alone will be considered in this paper.

Vaginal hysterectomy is a difficult operation and should only be performed by the experienced pelvic operator. The disrepute into which the vaginal route had fallen at the close of the last century was not due to a higher mortality, for, as a matter of fact, the comparative mortality has always remained lower, but rather to the many accidents following in the wake of the surgeon accustomed, by years of training, to rely wholly on sight and very little on touch in his pelvic work.

When restricted to its legitimate field of application the advantages of removing the diseased or displaced uterus with or without the appendages, by the vaginal route, are very pertinent. The more experience we gather the more we, as surgeons, become convinced that, in order to arrive at the best results in operative work, marked concessions must be made to the prejudices of the laity.

The horror of the abdominal incision unquestionably has cost many lives.

The advantages of the vaginal route over that of the abdominal route are not alone psychic and esthetic. In septic cases in which drainage is necessary, and the Fowler or sitting postoperative position is assumed, the mortality of vaginal hysterectomy to-day is practically *nil*.

In carcinoma of the fundus of the uterus, with a movable uterus and without glandular metastasis, the vaginal operation should always be the procedure of choice. The non-occurrence of shock, the early convalescence and the apparent absence of mutilation in vaginal hysterectomy can not possibly be urged too strongly in favor of this method. In my cases the recovery after vaginal hysterectomy was not only uneventful, but in no instances was there any postoperative suffering from gas, shock or any of the many discomforts that commonly attend our abdominal work. I recall that one well known surgeon compares the recovery from vaginal hysterectomy with that of convalescence from a normal childbirth.

In elderly women in whom the abdomen is thick and pendulous, vaginal celiotomy is always the operation of choice, unless expressly contraindicated.

In women who have passed the climacteric, the prolapsed uterus should be removed in all cases *per vaginam*. To retain the uterus in these cases and fix it to the anterior vaginal wall as a cushion for the bladder serves neither a surgical nor an esthetic purpose. The uterus in women of this age is a useless organ, of no sexual significance, often diseased and hypertrophic or subject to irritation and hyperplasia, if not to carcinoma, and its retention in the pelvis by fixation serves absolutely no good end.

The various mechanical devices both for correcting the retroflexed or prolapsed uterus, including the old Alexander-Adams operation, and the later Gilliam method, and the still later Webster-Boldt or Baldy operation, whereby the round ligaments are made to serve as a cushion for the displaced uterus, all fail markedly in not overcoming the concomitant cystocele, urethrocele and general vaginal fulness for which these patients ask relief.

There was a day when we amputated the cervix for carcinoma of the cervix. That day has happily passed. Yet I sometimes fear now that some of us are perhaps leaning too far toward radicalism as a result of our early incomplete work. Led by Wertheim, many leading gynecologists of to-day doubt the advisability of even ever removing the cancerous uterus from below. They insist on abdominal section, with complete pelvic evisceration in all cases. Surgically their position is apparently invulnerable, yet when we consider the enormous immediate mortality, even in selected cases, and the technical difficulty involved in this two-hour parametrium dissection, no conscientious man can blame some of us for being less radical, and thereby reducing the immediate mortality, even if we have to be more guarded in the eventual prognosis.

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* Read before The State Medical Society of Wisconsin, July 2, 1909, Sixty-Third Annual Meeting.

The wider the fame and the more expert the technic of the operator, the more daring he becomes in forcing his views on radical pelvic work. Not many months ago I witnessed three operations for cancer of the cervix with involvement of the lower glands, performed by one of the ablest continental surgeons. The operations were all of the radical nature as advocated by Wertheim. In every case a clean box was made of the pelvis, with an alarming liberation of the ureters and a complete dissection of the parametrium and the lower glands. The work, from the surgeon's viewpoint, was ideal in its completeness, yet the patients all promptly died. I am satisfied that in these cases the extirpation of the uterus and appendages *per vaginam* would have given more happy end-results.

The radicalism so persistently urged by Ries, Wertheim, Werder and Clark, early led Schuchardt to modify his vaginal technic by making his incision quite free of the cervix into the paravaginal and pararectal tissues, cutting through the left labium, the perineum, entering the ischiorectal fossa, and exposing the distal portions of the broad ligaments. With the same liberal disregard of tissue the vesicouterine pouch is now entered, and an incomplete dissection of the ureters and the parametrium is made possible. This operation, while less radical, is technically more difficult than the Wertheim dissection.

CONTRAINDICATIONS FOR VAGINAL HYSTERECTOMY

A congenitally small vagina, or a vagina that has undergone senile atrophy, with a fixed uterus, or a cervix held up and backward that can not be drawn down far enough to ligate the lateral vessels, would mechanically preclude selection of the vaginal route for celiotomy.

In advanced carcinoma of the uterus with parametrium extension and probable glandular metastasis, abdominal hysterectomy is the operation of choice.

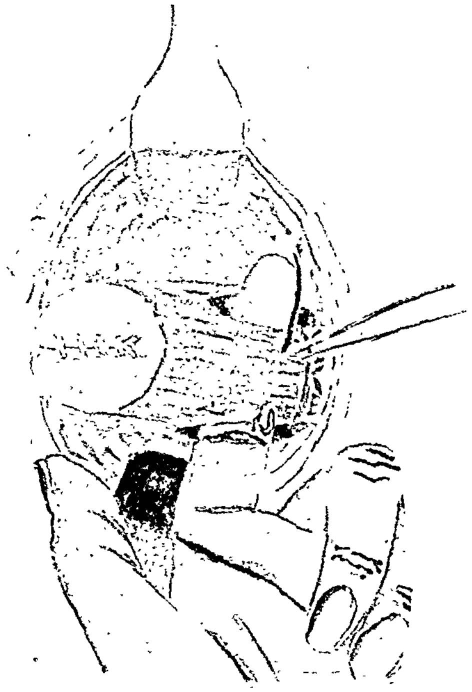

Fig. 1.—Method of hooking up the broad ligament.

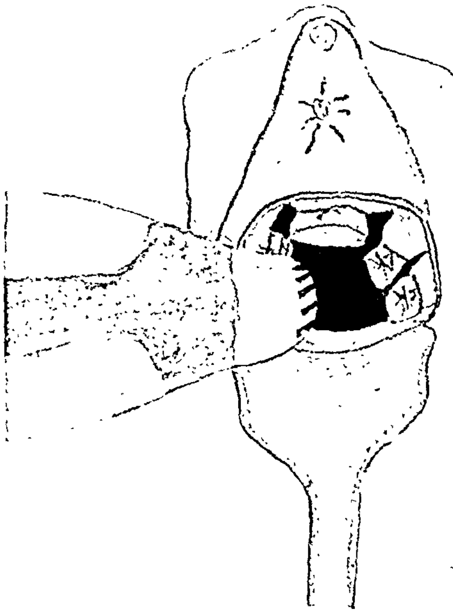

Fig. 2.—Ligature applied close to uterus.

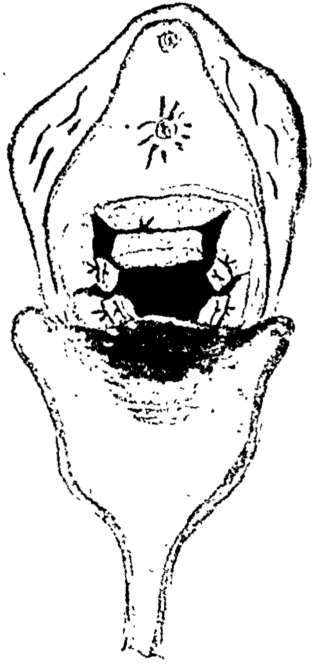

Fig. 3.—Showing stumps.

Large fibroid tumors, or small fibroids situated high up in the pelvis, should always be attacked from above.

The abdomen should always be opened when there is a well-grounded suspicion that other pathologic conditions higher up in the pelvis require attention.

TECHNIC

In all operative technic the patient's resistance must be carefully guarded by reducing traumatism to a minimum and by never exposing the patient to unnecessary waste of time. The technic of vaginal hysterectomy complies beautifully with these two conditions. Little traumatism is inflicted, there is no handling of the intestines and the work can be speedily completed.

The patient should be prepared as for abdominal section. In addition, the vaginal and the vulvovaginal surfaces should be thoroughly scrubbed and disinfected. The extreme lithotomy position, with a moderate Trendelenburg posture, should be used.

If necessary, the uterine canal is curetted. The external os is closed by sutures in all cases, and the perineum is retracted with a broad weight speculum. It is not necessary that the assistant make traction on this speculum. Two short lateral retractors and one anterior retractor are used. The cervix is seized with a strong vulsellum forceps. The customary circular incision is made completely surrounding the cervix about half an inch from the external os. In cases of complete prolapse with protrusion of the vaginal wall, urethrocele and cystocele, particular caution should be observed not to injure the displaced bladder by the first incision. The loose cervicovaginal tissue is then peeled away from the cervix toward the fundus by using the finger covered with gauze or some blunt instrument; an occasional nip of the scissors is necessary to expedite this work. The uterus is hugged closely in this operation. All bleeding points are clamped and the operative field kept clean.

When the cuff is about an inch wide the pouch of Douglas is entered close to the posterior surface of the uterus. In entering the peritoneal cavity the field should be kept clean and the surgeon should make no undue haste, as the peritoneum will sometimes simply strip up on the posterior surface of the uterus instead of tearing, and may thus confuse the operator. Once the peritoneum is incised, it is torn laterally. If a loop of intestine presents, a gauze sponge is introduced. The bladder should not be separated from the uterus at its vagino-uterine juncture at this stage, but by using the left finger as a hook the surgeon should hook up as much of the left broad ligament as convenient (Fig. 1). By making moderate traction the comparatively freed uterus will now come easily forward, and it should be tilted to the left. The tip of the left finger can easily be seen through the glistening broad ligament now tense. The surgeon must make sure that he is out of the way of the ureters. The broad ligament is perforated as close to the uterus as conditions permit, and a catgut ligature is applied *en masse*. A transfixing ligature is applied immediately in front of the first ligature. This procedure takes up but little time and will preclude all possibility of the ligature slipping. The ends of the transfixing ligatures are left long. The stump is cut close to the uterus.

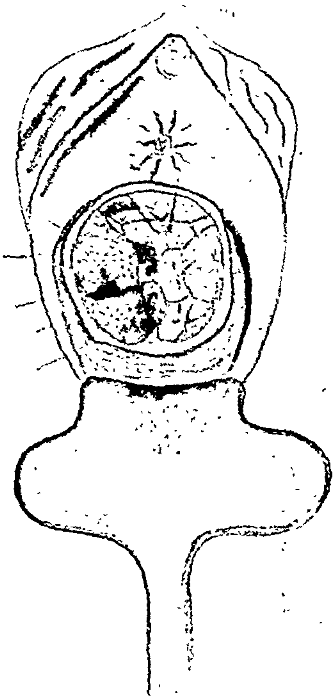

Fig. 4.—Showing arrangement of stumps to make new pelvic floor.

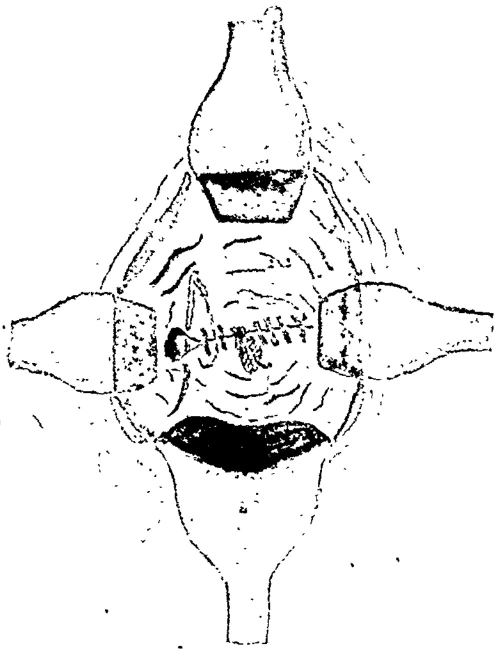

Fig. 5.—New pelvic floor.

The right side is then treated in the same manner. The left index finger is then hooked around the vesico-uterine septum. This is very easily done. The ligature is applied and cut close to the uterus, making a generous anterior stump (Fig. 2).

The uterus is now freed all round except for the two lateral upper portions of the broad ligaments.

The uterus is then delivered by seizing the fundus anteriorly. If it is impossible to do this because of the large size of the tumor, the organ must be cut in halves. There will be little or no bleeding, as the uterine arteries are both ligated while the ovarian arteries are tense and contracted. Both upper portions of the broad ligaments should be ligated, either proximally or distally, to the uterus, according to the necessity of removing or leaving behind the appendages. The stumps are transfixed and cut. All bleeding points are attended to; the field of operation cleansed, and the five, or sometimes seven, stumps are arranged (Fig. 3). The large anterior stump containing the vesicovaginal septum is placed well behind the others. The stumps are tied and sutured and thus form a new pelvic floor (Figs. 4 and 5). Should any of the stumps or even the base of the bladder look suspicious, then the ureters are located and freely dissected and all diseased parts removed. With a little patience much of the parametrium, apparently unreachable at first, can easily be brought into view. A strip of gauze introduced and the vaginal tissues and such portions of the peritoneum as can be brought up are sutured. It is necessary to pack well.

I repair the perineum if this is necessary; the procedure is simple and takes but a few minutes' additional time. Remove the gauze drain in twenty-four hours. Catheterization is usually done for three days. The patient is placed in the Fowler position, and I expect her to be up and around in ten days.

The large stump-area of anchorage of the posterior surface of the bladder, securely wedged behind the stumps of the broad ligaments now snugly retracted high in the pelvis, will overcome the cystocele effectively and permanently. I believe that anterior colporrhaphy as an adjuvant to this operation is wholly unnecessary.

REPORT OF CASES

Case 1.—Mrs. F., aged 67, had total prolapse of the uterus and vaginal wall. Urethrocele and marked cystocele were present and also small ulcers on the posterior surface of the cervix. The fundus was enlarged and the uterine canal discharged a suspicious fluid.

Operation.—Complete vaginal celiotomy. There was carcinoma of the fundus, but no glandular metastasis. Cystocele was completely overcome by this method of operation. Posterior colporrhaphy was done to correct the rectocele. The patient was discharged in two weeks and has been perfectly well since. Time elapsed since operation is fourteen months. The feeling of fulness in the vagina and bladder irritation from which the patient had suffered for twelve years, has completely left her.

Case 2.—Mrs. D., aged 78, had been suffering from cystocele and "falling of the womb" for many years. She was unable to move around much. A disagreeable sanious, vaginal discharge was present which had been getting worse of late. Operation was persistently refused until the ease of this method of operation was explained to her.

Examination.—Large cystocele was protruding and resting on the vaginal portion of the ulcerated, elongated prolapsed uterus. Marked rectocele was present. The uterus was freely movable.

Operation.—Vaginal hysterectomy. The line of reflection of the cystocele from the cervix could not be ascertained. A portion of the anterior part of the uterus which appeared healthy was taken to serve as an anterior stump to which to anchor the bladder. The technic described above was followed throughout. Perineorrhaphy was done by marginal V-incision down to the sphincters, and suturing in a perpendicular line. Time under anesthesia was fifty-two minutes. Recovery was uneventful.

The patient can now move freely about, attend to her housework, is free from all vaginal fulness and has absolutely no bladder trouble. The bladder is resting high up in the pelvis. The nurse informed me that catheterization during the first three days was difficult on account of the high position of the bladder.

CONCLUSIONS

1. Vaginal hysterectomy is only indicated in a limited class of cases. Among these I would mention cancer of the cervix, and cancer of the uterine canal in both cervix and fundus, with movable uterus; extreme prolapse of uterus and bladder; extreme retrodisplacement with metritis in women who have passed the climacteric.

2. Whenever applicable, vaginal hysterectomy has many advantages over abdominal hysterectomy, not the least of which is the avoidance of shock, and the corresponding quick recovery in elderly patients.

3. Women are singularly tolerant to operative traumatism inflicted on the pelvic organs by the vaginal route.

4. Vaginal hysterectomy has no horrors to most women suffering from cancer of the uterus, and the operation may serve us as a psychic lever to turn patients toward surgical aid in the early stages of this dreadful disease.

5. The technic of vaginal hysterectomy often presents great difficulties; but these are seldom unsurmountable.

6. Injury to the ureters, and hemorrhage, both primary and secondary, can be avoided by modern methods.

7. Cystocele and prolapse of the bowel can be completely overcome by this method.

THE PATHOLOGY OF ECLAMPSIA AND TOXEMIA OF PREGNANCY*

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The pathology of eclampsia is a subject that has interested the obstetrician since the beginning of his art. Before the days of postmortem research and urinary analysis the imagination of the practitioner formulated a pathology for this affection which was deduced from clinical symptoms. In the process of reasoning backward from effect to cause, few persons will follow the same course; therefore, radically different judgments are formed. Thus we have had many different explanations of the causes producing the ensemble of symptoms which have so long been called eclampsia. The chief and one essential symptom of the condition is convulsions, with which certain others may be associated in a more or less pronounced form.

Until very recently these have been required always before diagnosis should be pronounced. Even now it is an exceptionally bold diagnostician who will venture the diagnosis of eclampsia without the presence of convulsions.

Early in the era of postmortem studies in this condition, hope arose that the true explanation of the condition was at hand. Attention was largely centered on the central nervous system as the seat of the affection, since the main symptom seemed to point to that center. Changes in the brain which were given to account for the convulsions were anemia, edema, and apoplexy. These observations were very good as far as they went, but lacked in comprehensiveness.

In 1886 Jurgens by his careful labors placed the pathology of eclampsia practically in the position it now occupies. It is to him that we owe our first description of the hemorrhagic liver changes now so well known and thoroughly identified with this condition. In addition to the liver changes, he also gave an account of thrombi and liver cell emboli in the lung capillaries.

Stimulated by these findings, others devoted particular attention to the subject and as a result we have valuable contributions from Klebs, Pilliet, Lubarsch, Prutz, Gerdes, Schmorl and others who have redescribed the hepatic hemorrhages and associated them with necrosis of liver cells and thrombosis of vessels. In addition, they have shown us thrombi in other organs and emboli composed of liver and giant cells which they have described as being derived from the placenta.

The picture now accepted as typical of the pathology of eclampsia by the greater number of those familiar with the subject consists in hemorrhages in and about the portal spaces, thrombi in vessels of the liver, and giant cell emboli in other organs. These changes found postmortem in the pregnant or postpartum woman are considered by many as a justification of the diagnosis of eclampsia regardless of the presence or absence of convulsions before death. And it is with these changes in mind that the clinician will occasionally make the diagnosis of "eclampsia without convulsions."

Toxemia of pregnancy is a name obstetricians have for several years been applying to a symptom-complex characterized for the most part by headache, visual disturbances, nausea, vomiting, delirium and coma with or without edema. This group of symptoms which appears to have its origin in a more or less profound systemic poisoning, has been considered as an affection entirely apart from and independent of eclampsia because of the absence of convulsions.

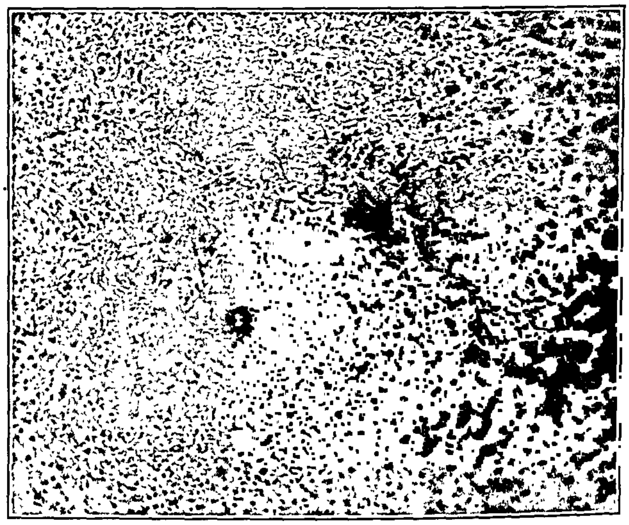
Fig. 1.—Hemorrhage in portal space.

During the development of the pathology of eclampsia by the above-named investigators, it was discovered that many pregnant and postpartum women dying from a systemic poisoning manifested by the above symptoms, with occasionally convulsions added, showed different lesions from the ones above described in connection with eclampsia. Instead of hemorrhages about the portal spaces associated with thrombi and emboli, extensive necrosis was found associated with advanced degenerative processes which when found early were limited to the central part of the liver lobule, but later invaded the remaining part of the lobule and produced a picture typical of acute yellow atrophy of the liver.

In the evolution of this subject, two sets of views have developed: one that the two conditions are entirely different diseases, eclampsia having hemorrhages about the portal spaces as its characteristic lesion and toxemia having central necrosis of the liver lobule as its characteristic lesion. The other view holds that the two conditions are different manifestations of the same disorder. Excellent contributions to both sides of the subject have been made in this country by Dr. Williams of Baltimore and Dr. James Ewing of New York.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

I am presenting, in a limited way, the findings in fourteen cases which I have examined postmortem at the New York Lying-in Hospital, in the wards of which they were observed clinically. The diagnosis given in each case is that made by the clinician and not from the postmortem findings in the liver. In each case put in the class of eclampsia there were convulsions. In each case put in the class of toxemia of pregnancy there were no convulsions, but signs of systemic poisoning.

Before generalizing on the lesions found, it may be of interest to give details of the histories of four of the series, in which the most extensive hemorrhagic changes were found.

Case 3.—Eclampsia. Hemorrhages (Path. No. 887).

Patient.—Aged 21, primipara.

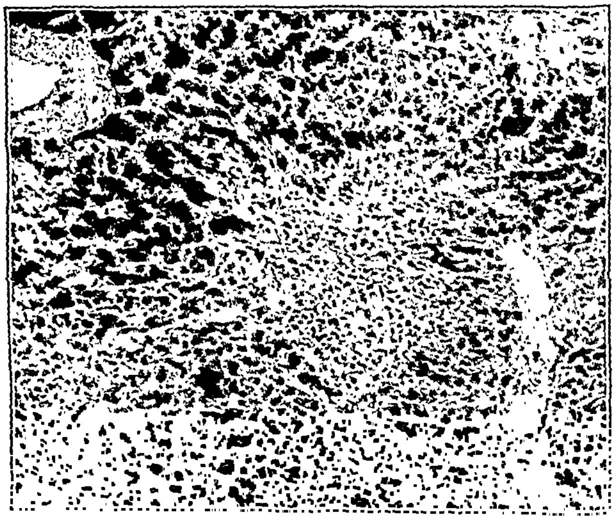

Fig. 2.—Central necrosis of liver lobule.

History.—This patient had never been ill. She had no morning sickness with present pregnancy. Five weeks before confinement she had slight morning headaches and swelling of the legs. Three weeks before confinement the headaches had stopped and the swelling diminished. There was a trace of albumin in the urine. At full term she gave birth normally to twins at 7:30 p. m., and had a comfortable evening until 11 o'clock, when she was suddenly seized by a general convulsion followed by coma, in which she died eight hours later.

Autopsy.—Body shows general edema, slight over the trunk, but marked in the feet and legs. No jaundice.

Brain: All the ventricles are filled with blood which comes from a laceration in the lower part of the pons and through the floor of the upper half of the medulla.

Liver: Weight, 2,500 grams; size is increased; color is light yellow. There are extensive hemorrhages under the capsule and through the liver substance. Microscopically, numerous hemorrhages are seen in and about the portal spaces with extensive fibrin formation. The cells show marked cloudy swelling, fatty degeneration, autolysis and pigmentation. (Fig. 1.)

Kidneys: Very much enlarged, pale and congested. Microscopically, the epithelium of the cortical tubes shows extensive degeneration and disintegration.

Case 4.—Eclampsia. Hemorrhage (Path. No. 634, 1906).

Patient.—Aged 28, iii.-para. Eighth month of gestation.

History.—She had had two previous normal pregnancies and labors. During the last previous pregnancy she had slight edema of the ankles. She enjoyed good health up to the time of attack, which came suddenly at 11 a. m. as a very severe headache. She felt fairly well during the afternoon. At 11 p. m. she had a general convulsion. She was brought to the hospital two hours later in coma, in which she died four hours after admission.

Autopsy.—Body shows edema, moderate in the body, marked in feet and legs. Subcutaneous hemorrhages over trunk and arms. No jaundice.

Brain: All ventricles are filled with blood which comes from a laceration in the left corpus striatum.

Liver: This organ is small, pale, yellow, very firm. There is extensive hemorrhage beneath the capsule and through the organ. Microscopically, extensive hemorrhages are found in and around the portal spaces. Some of the hemorrhages have destroyed as much as three lobules. The parenchyma shows cloudy swelling, slight fatty degeneration and pigmentation. (Fig. 1.)

Kidneys: These organs show extensive degeneration and sloughing of the epithelium in the tubules of the cortex. There are a few subcapsular hemorrhages over the lower part of the right.

Case 9.—Toxemia of pregnancy. Hemorrhages (Path. No. 2098).

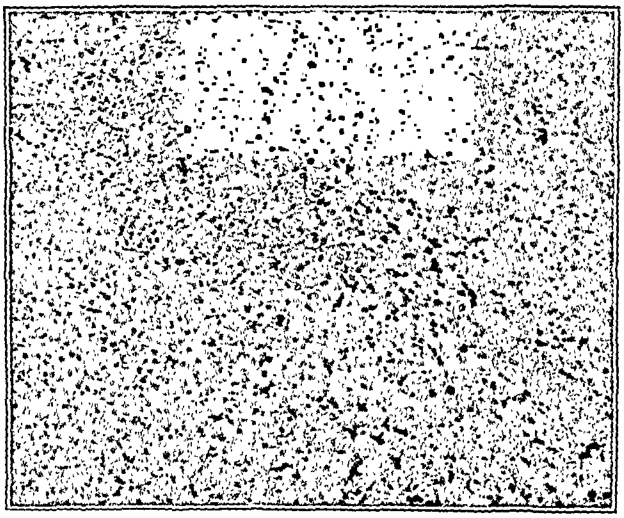

Fig. 3.—General autolysis of liver.

Patient.—Aged 30, iii.-para. Ninth month of gestation.

History.—Patient was brought to the hospital in the ambulance, having suffered from dizziness, headaches, swelling and pain in the legs for three weeks. After rest in bed and a limited diet the subjective symptoms disappeared, but the swelling of the legs persisted. She had a natural labor at 9 a. m. At 1 p. m., without having convulsions, she went into coma, which gradually deepened until 5:30 p. m., when she died.

Autopsy.—Body shows slight general edema. No jaundice.

Brain: The ventricles are all filled with fluid and clotted blood. The hemorrhage comes from a superficial laceration in the floor of the left lateral ventricle between the caudate nucleus and optic thalamus.

Liver: Slightly enlarged and light yellow. There are extensive hemorrhages beneath the capsule and through the organ. Microscopically, large hemorrhages are found in and about the portal spaces. There is very little coagulation of the blood in the hemorrhages. The liver cells in and about the hemorrhages show destruction from pressure, degeneration and necrosis. The general parenchyma is distorted and shows granular and fatty degeneration and pigmentation. About some of the hemorrhages are large accumulations of leucocytes. (Fig. 1.)

Kidneys: Are increased in size and congested. There is extensive degeneration and sloughing of the epithelium in the tubules of the cortex.

CASE 11.—Toxemia of pregnancy. Hemorrhages (Path. No. 425, 1909).

Patient.—Aged 30; iv.-para. Seven months pregnant. She was comatose when admitted; pupils were contracted; patient was generally cyanosed; there were no convulsions. Anterior lip of cervix was incised and the child delivered by internal podalic version. Patient died on day of operation.

Autopsy.—Body was not edematous. There is slight edema of the feet and legs. No jaundice.

Brain: The brain is symmetrical and well-developed. The convolutions are flattened. All the ventricles are filled with fluid blood. There is a hemorrhage in the pons which has ruptured through the floor of the upper half of the fourth ventricle.

Liver: This organ is slightly increased in size and is pale grayish yellow in color. There is extensive hemorrhage beneath the capsule and through the liver substance. Microscopically, the liver cells show cloudy swelling, hydropic and fatty degeneration. There is a large amount of bile pigment scattered through the cells. Many of the portal spaces show extensive hemorrhage in and about them with extensive fibrin formation. (Fig. 1.)

Kidneys: These organs are much increased in size. The cortices are swollen and the capsules strip easily. Microscopically, the parenchyma shows albuminous degeneration and extensive sloughing. (Fig. 5.)

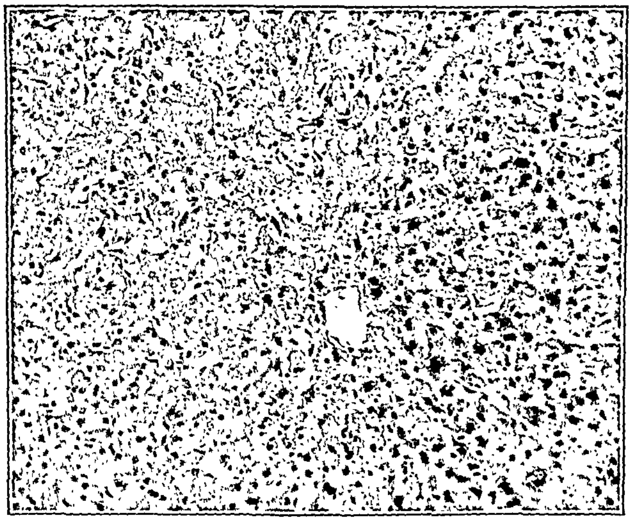

Fig. 4.—Cloudy swelling of liver.

The diagnosis of eclampsia was made in two of these cases—Cases 3 and 4—because of the convulsions before death, and toxemia of pregnancy in the other two because of the absence of convulsions, yet the lesions in the brains and livers are very similar.

The accompanying table shows that the diagnosis of eclampsia was made in ten cases. In four of these, hemorrhages occurred in the portal spaces of the liver, in three central necrosis in the liver lobules, in one a general autolysis of the liver cells, and in two cloudy swelling only. The brain in one case showed congestion only, in two cases congestion and edema, in one edema and in two hemorrhages.

Four cases of this series were classified as toxemia of pregnancy. The livers in three of these cases showed the hemorrhagic changes above described; one showed necrosis about the centers of the liver lobules. The brain in one case showed congestion, and two showed hemorrhages. The kidney lesion in all these cases was very similar and consists in a parenchymatous nephritis with extensive sloughing of the epithelium.

In addition to the liver, brain and kidney lesions the greater number of the cases showed edema, fluid in one or more of the serous cavities, small hemorrhages in the serous and mucous membranes, especially in the pulmonary pleura, visceral pericardium and in the gastric mucosa. In some of the cases there were small hemorrhages into the lung parenchyma. The heart muscle showed a slight clouding. One case exhibited subcutaneous hemorrhages and three jaundice.

It is the custom for many observers to classify eclampsia into a nephritic and a hepatic type, the former having edema in very pronounced form and the latter having jaundice present. In this series of fourteen cases only three of the patients had jaundice, and two of these had central necrosis in the liver lobules, and the third a slight cloudy swelling in the liver. Ten of the cases showing marked hemorrhagic liver changes showed no icterus. It would seem from these findings that the above classification is a very inaccurate one.

Turning to the etiology of the hemorrhages, we find them explained by the hyaline blood plate thrombi and emboli formed from cells from the liver and giant cells from the placenta. In these cases I have been unable to find the emboli of liver and placental cells, but thrombi are rather numerous, formed occasionally from blood plates, but more commonly from the fused stromas of red blood cells. It is the rule to find considerable hemolysis in the hemorrhagic cases. In some the effusions of serum in the serous cavities is deeply tinged with the diffused blood pigment. Hemolysis when occurring in the living body is usually preceded by an agglutination of the cells which undergo dissolution. It is these agglutinated cells that form the majority of the thrombi about which hemorrhages occur. Another factor in the production of the hemorrhages and probably the most important is a solution of the endothelial lining of the blood vessels. The agent causing hemolysis and cell destruction in the various organs destroys also the endothelium of the vessels, thus allowing an easy escape of the blood. Increase in blood pressure, which is usually heightened in this condition, increases the hemorrhage and gives the extensive lesions found in the brain and liver.

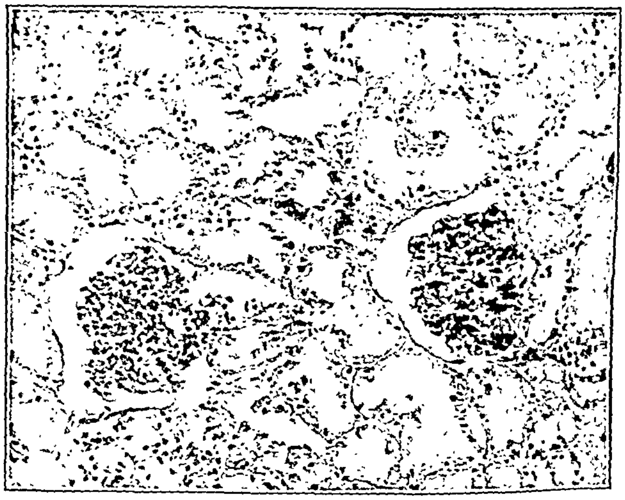

Fig. 5.—Type of parenchymatous nephritis found in all cases of eclampsia

The nature of the agent causing such general cell destruction is not definitely known. Judging from the histologic appearances of the cells affected it is probably an enzyme; but whether native in the cell with its function perverted to produce autolysis or whether introduced from a foreign source (placenta or fetus) is not determined.

The thyroid gland in these cases showed hypertrophy, and in one case considerable colloid cystic degeneration.

Studies of blood pressure in fifteen cases of eclampsia not included in this series showed a blood pressure ranging between 130 and 190. The pressure varied considerably at different times, and as a rule an increase was noted before and a decrease after the convulsive seizures.

The coagulation time was usually normal. In one case it was delayed ten minutes. No change from the normal was noted in the alkalinity. The specific gravity varied from 1035 to 1055, the lower figure was found in a patient having 52 per cent. hemoglobin. The red blood cells in these cases numbered 3,000,000 and under to each cubic millimeter of blood, except in one patient, who had 4,100,000.

The hemoglobin ranged between 52 and 60 per cent. One case showed 70 per cent. The leucocytes varied between 10,000 and 14,000. One case had 19,000. The polymorphonuclear forms varied from 79 to 81 per cent. except in one case in which there were 90 per cent.

The power of the serum of eclamptics and those suffering from toxemia of pregnancy to destroy the red cells of normal subjects was tested in fifteen cases. The serum was added to red cells of normal persons after washing the latter in 0.85 per cent. salt solution. It was found that some of the serum of each class would hemolyze normal red cells, while others would not. The cells of normal postpartum women were at first used. It was thought that pregnancy might possibly confer immunity against the action of the eclamptic hemolysin, and with this possibility in view normal male red cells were used. They were, however, found no more susceptible than the cells from postpartum women. The hemolytic power of the cerebrospinal fluid was also tested, but found invariably negative.

Case.	1	2	3	4	5	6	7	10	11	12	8	9	13	14
Diagnosis														
Eclampsia	x	x	x	x	x	x	x	x	x	x	..	..	..	..
Toxemia	..	..	..	..	..	..	..	..	..	..	x	x	x	x
Liver														
Hemorrhages	x	x	x	x	..	..	..	..	..	..	x	x	x	..
Central Necrosis	..	..	..	..	x	x	x	..	..	..	..	..	..	x
General Autolysis	..	..	..	..	..	..	..	x	..	..	..	..	..	..
Cloudy Swelling	..	..	..	..	..	..	..	..	x	x	..	..	..	..
Brain														
Congestion	x	x	..	..	..	..	x	..	..	..	x	..	..	..
Edema	..	x	..	..	..	..	x	..	..	x	..	..	..	..
Hemorrhage	..	..	x	x	..	..	..	..	..	..	..	x	x	..
Kidneys														
Parenchymatous Nephritis	x	x	x	x	x	x	x	x	x	x	x	x	x	x

The urine of all the patients showed albumin, six had acetone and a marked excess of indican; two had diacetic acid and all showed casts.

The changes in the placenta when found consisted of hemorrhagic infarcts, degenerated epithelium and hyaline metamorphosis. Many placentæ show no change at all.

We are now in a position to explain some of the symptoms of these two conditions. The headaches are due to intracranial disturbance. The dura mater receives a nerve supply from the fifth cranial pair and is sensitive to cerebral changes, especially those that produce pressure. We have in these cases congestion, edema and hemorrhage which could act as irritants to the dura mater and produce the headache.

The visual disturbances, such as spots before the eyes, cloudy vision and complete blindness, are due to circulatory disturbance and edema about the base of the brain. The ophthalmoscope shows a pallor of the optic nerve, but as a rule no lesion even in the patients who have complete blindness and recover.

The petechiæ in the skin are produced by small hemorrhages from small vessels in which thrombi have formed, emboli lodged, or in which the endothelium has been destroyed. The nausea and vomiting may be due to one or a combination of causes which may be central or peripheral. The vomiting center may be impressed by poisonous substances circulating in the blood. The peripheral causes are reflex and may be due to the uterine enlargement, bowel disturbance, or to the irritation of the gastric mucosa by elimination of poisonous substances into the stomach.

Edema is produced by one or a combination of three conditions, which are: an alteration in the blood, an alteration in the vessel wall or a change in the blood pressure. In these cases there is anemia, destruction of the vascular endothelium and heightened blood pressure.

The jaundice is probably produced by cloudy swelling of the liver cells which compress the bile capillaries and increase the pressure of bile within them above that of the surrounding vessels and an overflow takes place into the blood and lymph capillaries through which the bile pigments are distributed to the tissues.

CONCLUSIONS

1. The liver lesions in eclampsia are not uniform. Pregnant or postpartum women dying from convulsions may have hemorrhages, central necrosis, general autolysis or cloudy swelling in the liver.

2. The liver lesions in toxemia of pregnancy are not uniform. They may be either hemorrhagic or central necroses, both of which are found in eclampsia.

3. The hemorrhagic lesions are produced by liver and placental cell emboli, thrombi *formed from blood plates* and fused red blood cells and by a solution of vascular endothelium. Heightened blood pressure increases the extent of the hemorrhages.

4. The agent producing the hemolysis and general cell destruction is probably an enzyme.

204 West Seventieth Street.

Itching.—C. H. Bangs, in the *Archives of Diagnosis*, July, 1909, states that itching is so common a symptom of skin affections and one so frequently associated with severe constitutional diseases that the looseness of its definition is surprising. Many text-books make no attempt to define it. He discusses the causes of itching and concludes that: 1. Itching is a manifestation of disturbed nerve function. 2. It is a sensation due to the irritation of the sensory nerves by some irritant not sufficient to produce pain. 3. The source of this irritation may be from within or without. 4. The irritation if continued or increased may, and frequently does, produce stinging, burning or pain. 5. While heat, redness, swelling and pain are the cardinal symptoms of inflammation in general, the usual combination of symptoms in dermatitis is heat, redness, swelling, together with itching, which latter is the clinical equivalent of pain.

A STUDY OF ECLAMPSIA

WITH THE RESULTS IN TWO HUNDRED AND FIFTY CASES, FROM THE WARDS OF THE LYING-IN HOSPITAL OF THE CITY OF NEW YORK*

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NEW YORK CITY

There is probably no obstetric complication about which more has been written and less really understood than the condition known as eclampsia. Not knowing its cause, we have been groping blindly in the dark to secure a satisfactory treatment, which, up to the present time, has been mostly empirical and anything but satisfactory in its results.

The mortality, both maternal and fetal, is appalling, and the multiplicity of treatments recommended by physicians give testimony to the worthlessness of these methods of procedure, as the large majority have been of necessity directed toward abating the symptoms and not to relieving the cause of the difficulty.

The uncertainty which we feel about eclampsia begins with its very name. In the latest edition of Webster's dictionary it is stated that eclampsia is derived from the Greek *"eclampain,"* meaning "to shine out," and is defined as "a fancied perception of flashes of light, or convulsions; the term is usually restricted to a convulsive affection occurring during the pregnant state and parturition." On the other hand, the author of one of the well known text-books on obstetrics states that the disease was so named on account of the suddenness of its onset, coming on like a flash.

Some observers discard the use of the word "eclampsia" altogether, asserting that, as the condition is a toxemia, which sometimes occurs without convulsions, in eclampsia without convulsions—if we use the term—we have the paradoxic condition of "convulsions without convulsions." Since we realize that several kinds of toxemia probably occur during the pregnant state, it seems preferable to me to consider eclampsia as a toxemia of the convulsive type, and the cases reported in this paper will be limited to those in which one or more convulsions were actually present.

Harrar,[1] in discussing eclampsia, states that beginning with February, the number of cases increases during March, reaches the highest point in April, and then steadily diminishes, finding the lowest level in November. The curve of this rise and fall nearly corresponds to the curve of the rainfall, which fact, he states, might explain the well-known theory that climatic conditions have something to do with the disease; although it is not clear why periods of unsettled weather should have the effect of producing a convulsive toxemia in pregnant women. It is an interesting observation, however, and in the series of cases here reported the greatest number occurred in February and March, and the least in December and January, which is approximately the same as above mentioned.

Regarding the frequency of the condition, the 250 cases occurred in 14,899 labors, which means 1 case to every 60 labors (1 to 60) or 1.7 per cent. of all labors. This is a high percentage and is due to the fact that a hospital is the clearing house for so many of the cases occurring in the city, and the probability is that it is about eighteen times as frequent in hospital as in private practice, the basis for this statement being that in our out-patient department, which represents private practice, in 46,252 cases, eclampsia was encountered 43 times; that is, 1 case in every 1,075 labors, or 0.09 per cent., as opposed to 1 case in every 60 labors in the wards of the hospital or 1.7 per cent.

The condition is almost twice as common in primiparæ as in multiparæ, being 64.4 per cent. in the former and 35.6 per cent. in the latter, which proportion is more nearly equal, however, than the figures commonly given.

Multiple pregnancy is noted in this series in twelve cases, twins occurring eleven times and triplets once.

We divide eclampsia into three classes, according to whether it appears before, during or after labor; in other words, antepartum, intrapartum, and postpartum. The postpartum form is supposed to be the least common, according to the foreign observers, but in this country inspection of the literature shows that it apparently occupies second place in frequency of occurrence. In the series here reported, eclampsia was noted in the antepartum cases 140 times, or 56 per cent.; in the postpartum cases, 86 times, or 34.4 per cent., and in the intrapartum cases, 24 times, or 9.6 per cent., which agrees with the statement just made.

Regarding the age of the patients, the youngest noted was 15 and the oldest 48 years of age, the greatest number of cases occurring between the ages of 20 and 25, which is in accord with the fact that the greatest number of eclampsias occur in primiparæ.

In the natural order of discussion, in a general paper of this sort, the pathology of the condition should next be taken up, but as Dr. Welch's paper is devoted to pathology alone, and as his material was gathered largely from the cases comprising this series, and is so complete, I shall say nothing further regarding it, nor the symptoms, which are familiar to all, but after a few remarks on prognosis shall pass on to treatment.

The maternal mortality of eclampsia is given by various authors as ranging from 5 to 50 per cent. It also varies according as the treatment is expectant or immediately operative, and is, of course, much higher in hospitals than in the private practice of those who are skilled in handling the condition, as so many of the hospital patients reach the institution in a moribund state after delay and mishandling outside.

The fetal mortality is usually from 33 to 50 per cent.

In the cases here reported there were 77 maternal deaths and 110 still-born children, or those who died soon after birth, a mortality of 30.8 and 44 per cent., respectively, the latter fetal mortality being slightly below the average. Of the maternal deaths, 62.3 per cent. occurred in cases in which the eclamptic seizure took place antepartum; 31.1 per cent. in postpartum cases, and 7.7 per cent. in the intrapartum cases. On the other hand, contrasting these figures with those of our out-patient department, we find that of the 43 eclampsias there occurring, and already referred to, 10 of the patients died, a mortality of only 23 per cent., and this I must ask you to remember took place in tenement houses of the lowest type, surrounded by the most unfavorable conditions.

The treatment must be divided into (a) prophylactic and (b) curative, according to whether the patient shows symptoms of an impending attack or whether the convulsions have actually occurred, for the two conditions differ widely and yet are often treated in the same manner; we are continually seeing cases in which the proper treatment given at the right time would undoubtedly have resulted in the mother's recovery. Given a case in which headaches, dizziness, edema, and faulty elimination are present, even though no convulsions have occurred, and the patient is perfectly conscious and about the house, it is our duty to be on guard, ready to interfere promptly if the convulsive seizures supervene. Most certainly we should take all possible means to aid elimination by the various channels, in order to lighten the burden of the already overloaded organs; but if the case is growing progressively worse, and even one convulsion occurs, let us not lessen the chances for the patient by hesitating any greater length of time than is necessary to remove the cause of the difficulty, namely, the products of conception. While it is true that we do not know the exact cause of eclampsia, it is certain that the condition occurs only in the pregnant or recently pregnant state, and that every convulsion tremendously lessens the patient's chances of recovery, as the convulsions do not occur until the changes in the metabolism have gone so far that the balance between absorption and elimination has markedly increased in favor of the absorption, the eliminative organs are overpowered, and the chances for recovery decrease almost momentarily.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Bull. of Lying-in Hospital of New York City, December, 1905, No. 3. p 72

In a paper entitled "A Plea for the Prompt Evacuation of the Uterus in the Treatment of Eclampsia," by Fry,[2] read before this Section in Chicago, last June, a conclusive argument is presented for early delivery, and with this view I am in hearty accord. No statistics have been adduced to show that expectant treatment is of avail, and all of us have many times seen cases in which a prompt and early interference would undoubtedly have saved the woman's life.

When a convulsion occurs, then, let us empty the uterus, without delay. The means by which this shall be done will vary somewhat with the experience and preference of the operator.

In this series delivery was accomplished, by manual dilatation and internal podalic version in 89 cases, by forceps—high and low—in 49 cases, by craniotomy in 14 cases, by abdominal Cesarean section in 10 cases, and by vaginal Cesarean section in 2 cases. Induction of labor by means of the bags of Champetier de Ribes was performed 7 times. The maternal mortality following version was 38.5 per cent.; forceps deliveries, 20.5 per cent.; induction of labor, 42.8 per cent.; craniotomy, 28.5 per cent., and Cesarean section, 40 per cent.

The fetal mortality in the operative cases after internal podalic version was 62.9 per cent.; after high forceps, 44.4 per cent.; after induction of labor, 28.5 per cent.; after abdominal Cesarean section, none at all, or 100 per cent. of living children.

These are the statistics of the 250 cases. I will not attempt a comparison of these figures, which are approximately the same as those of other authors. I wish to reiterate, however, that these high mortality figures are not entirely due to eclampsia, but rather to the delay in sending the cases to the hospital where proper treatment could be instituted, thus losing valuable time.

Concerning the actual operative procedures for delivery, I shall say nothing except in regard to Cesarean section, both abdominal and vaginal. Of the abdominal sections here reported, 8 were done for contracted pelvis in patients in whom the eclampsia was an incident; 2 were done in moribund patients for the purpose of saving the child. As I stated in a paper on Cesarean section, read in this Section last year, I believe that there are cases, such, for example, as that of an elderly primipara with a small, narrow vagina, and a long cervix with a tough unyielding os, in which a rapid Cesarean section is the operation of choice, and during the past year I have found no reason to change my opinion.

I desire to utter a word or two of caution in regard to the employment of vaginal Cesarean section; it is an operation which requires considerable technical skill, and, while it has a distinct place in obstetric surgery, the wholesale use of it which is being recommended at present is, in my opinion, entirely unwarrantable. Any operation which offers the risks of puncturing the bladder and rectum—and I have seen this done by competent operators—the dangers of hemorrhage and the difficulties of suture which this one does, is not lightly to be undertaken, except in the hands of an experienced vaginal operator, under exceptional circumstances, and even he may at times meet with great difficulties in securing a satisfactory outcome to his case.

Finally, when the patient is delivered, the uterus emptied, and convulsions then either continue or come on, this is the time when efforts should be directed first toward controlling the convulsions, in order that the patient may not do herself bodily injury, and, second, toward securing elimination by the various excretory channels of the body.

To control convulsions, for a long time chloroform has been used most generally. In addition to this, bromids and chloral by rectum, morphin and other hypnotics have been tried. For the past few years, however, I have been using scopolamin hydrobromate, gr. 1/100, in combination with morphin sulphate, gr. 1/6, and have been highly pleased with the results, which have been most satisfactory. One or two doses generally suffice, and the amount of morphin given is not sufficient to lock up the bowels, which is the objection usually lodged against it. It is to be remembered, however, that the changes in the organs have here advanced so far that they are not doing their excretory work properly, and so the main attention should be turned toward elimination. This is accomplished by rectal irrigations of normal saline solution in large quantities, by bleeding followed by intravenous infusions of normal salt solution, hot packs and as free catharsis as possible. Thyroid extract has been tried with apparent promise, and in some parts of the country veratrum viride is still high in favor.

In closing, allow me to emphasize that—until we have a more tangible knowledge of the actual cause of these toxemic convulsions—the only feasible treatment for the condition of eclampsia is immediate evacuation of the uterine contents, *followed* by proper eliminative care in the puerperium.

37 Madison Avenue.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. WELCH AND M'PHERSON

Dr. Horace G. Wetherill, Denver: I read a paper on subject allied to this at the Chicago Session last year. I saw in the pathologic collection the livers and brains from the cases reported by Dr. Welch, and they are characteristic of similar cases which I have seen. There are one or two points in which my judgment would not confirm the statements made in the papers, particularly in the paper of Dr. Welch. He says that usually the ophthalmoscope shows very little. In the cases I have had an opportunity to observe the ophthalmoscope has been of the greatest possible assistance. Early in the disease, and before many of the general symptoms were developed, there were very definite changes in the eye-grounds in the form of a neuroretinitis or even small retinal hemorrhages, and I have learned to think that the oculist may be of great service in making early diagnoses in these cases. I can not agree either with the statement made with reference to the use of chloroform. We know that the cases of late chloroform poisoning present pathologic changes closely allied to those which Dr. Welch has shown us in drawings, and in my opinion it is not at all safe or wise to give chloroform to patients under these circumstances. That is a point which I tried to make clear in my paper last year, and which my previous observation and subsequent experience lead me to believe is a very important one.

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[2] The Journal A. M. A., Dec. 12, 1908, li, 2041.

Dr. F. Lawrence, Columbus: I wish to report briefly two recent observations, for what they may be worth in the matter of etiology or causation, and possibly for the help they may give in future observations. One patient was a young woman, a primipara, under the care of an excellent physician. There was marked anemia, on account of which a blood-count was made by a pathologist. The hemoglobin test revealed between 30 and 40, about 2,000,000 and a fraction under 3,000,000 reds, with approximately a normal count of about 4,500 white corpuscles. There was at the first observation very little albumin, but in the course of perhaps ten days there was a further marked diminution in hemoglobin and in the red blood-count, with approximately a level white blood-count. The albumin markedly increased and the woman died in an eclamptic seizure. The other patient was a young woman who a year before aborted with twins at about the fifth month. She had a marked amount of albumin and was anemic. She was taken to the hospital, where the blood-count showed 2,100,000 reds, 4,200 whites and 31 hemoglobin. She was placed under the charge of my colleague, Dr. Whitaker, and he treated her by the usual remedies and by forced feeding to increase the blood count and the hemoglobin, but without effect. She was near term, and was delivered naturally and without convulsions. About twenty-two hours afterward she died like a flash. She had a marked amount of albumin. The question in my mind is, how much can we do by more careful blood observation to prevent these unfortunate deaths? How much can we do by educating not only the physician, but the patient that the woman who is to become a mother should have all the careful observation in the early stages of pregnancy that is given in any other crisis of life? It seems to me that we should accomplish something in this matter by an exhaustive study of the blood conditions.

Dr. C. C. Frederick, Buffalo: I wish to relate an experience that I recently had which might possibly be of interest. In January or February I read a paper in Detroit before the Wayne County Medical Society. At a little informal gathering after the meeting the subject of tetanus came up for discussion, and Dr. Hutchins of Detroit spoke of the control of the convulsions of tetanus by the administration of "chloretone," and told me that he had succeeded in controlling convulsions in five cases of tetanus out of six through to recovery. This is an unusual percentage, and he ascribed his success largely to the chloretone as an antispasmodic. It occurred to me that possibly this drug might be of benefit in puerperal eclampsia because if the eclamptic seizures in the ordinary run of cases can be controlled by any means whatsoever, without detriment to the patient, the patient may be carried along until by elimination the toxemia is got rid of and the convulsions cease. I agree with those who oppose the use of chloroform because, as stated, we know that the late poisonous effects of chloroform are very similar to the results of toxemia. I have seen two cases in consultation, in both of which I advised the use of chloretone as an antispasmodic, and I was much pleased with the effects. It is given by rectum if the patient is unable to swallow. If the patient can swallow, 10 or 15 grains are administered in water. I carried both these patients along with the chloretone for twenty-four and thirty-six hours, respectively, until they were rid of the toxemia.

Dr. C. S. Bacon, Chicago: I wish to call attention particularly to the nature of the disease that precedes the convulsions. It seems to me that it is an advantage for us to look on eclamptogenic disease, the pre-eclamptic stage, as a disease, one symptom of which is convulsions. Looking on it in this way we regard the convulsions simply as the crisis, as we regard infantile convulsions as the crisis of an intestinal infection. The question is then the study of this eclamptogenic disease and here, of course, the pathology as discussed in the paper of Dr. Welch is of the utmost importance. But the question of diagnosis before the convulsion occurs is also of importance. We have all had the experience that the study of the urine fails us. Sometimes convulsions occur when there has been no albumin up to within a few hours of the convulsions. The eye symptoms fail. Other symptoms fail. I have long regarded general edema as one of the most important of the symptoms of this disease. In the last two years I have begun to make regular investigations of the blood-pressure in all patients, and so far my experience leads me to think that the systematic study of the blood-pressure is one of the best means at our command. I have not yet seen any convulsions in cases in which the blood-pressure is not above 160. In most instances, as recorded by the ordinary instruments, the pressure has been in the neighborhood of 180 or above. I believe, therefore, this is a very important point in the diagnosis and the prognosis of the disease. It is also of great value in the diagnosis of eclampsia. I have had two cases this year in which the convulsions were diagnosed as eclamptic, but were shown afterward not to be eclamptic. One patient was hysterical, the other was an old epileptic. In both cases eclampsia was doubted because of the low blood-pressure. In general, this would perhaps be of great value in enabling us early to determine this disease and prevent the climax. We know that the results of treatment are very unsatisfactory. The result given by Dr. Welch shows 30 *per cent.* of maternal deaths. Everything points to the necessity for increased knowledge of the disease and our hope is in a future determination of its character.

This, however, does not carry us very far along toward treatment. Everything that we can do to prevent the occurrence of convulsions we should do. Interference with the high blood-pressure is of value. The induction of labor I believe is of the utmost importance. Up to the last year I have been favorable to the vaginal Cesarean section, but one or two bad experiences of my own, and others reported by other operators in my own town have led me to the same conclusion as that expressed by Dr. McPherson, namely, that the method is dangerous. Undoubtedly the dilatation of the cervix in proper cases is the correct method to pursue with delivery by forceps or otherwise if the cervix is thoroughly dilated but in a rigid cervix the abdominal section is quicker and safer than the vaginal.

Dr. Henry D. Fry, Washington, D. C.: I am gratified to find that Dr. McPherson bears out the line of treatment that I suggested in the paper I read last year before this Section in Chicago. I think that the only way to treat eclampsia until we know something about the cause of it is to treat it in the same way that we treat placenta prævia. In some cases there is a dangerous condition, the result of the fetus in the uterus, the mother is liable to die of hemorrhage, and the only safety to the woman is to empty the uterus at once. In other cases there is a toxemic condition coming on and if we delay by using any treatment other than immediate evacuation of the uterus we are losing valuable time. I am sorry to have Dr. Fredericks recommend chloretone. It may be a good thing, but we have done too much in this line of trying to hold back the convulsions by the use of antispasmodics. The only good statistics to be found to-day of the treatment of eclampsia, the only ones giving a mortality under 10 per cent. are those given as a result of emptying the uterus at once, and no other. If the obstetrician dilly dallies, treats with diaphoretics, etc., to control the convulsions, he is losing valuable time. Dr. McPherson showed that the mortality is highest in the antepartum cases. This is because of the delay; because the uterus is not emptied soon enough. The statistics which he gives of the high death rate after the birth of the child is contrary to many of our text-books, which state that in the most favorable cases the mortality is only 7 per cent. I believe the mortality is higher and that the reason that these women who die in the post-partum stage do not die from the primary toxic condition but from a secondary condition, is a complication involving not only the mother's liver but the brain. The brain shows intracranial hemorrhage, and I think these women who die in what we call eclampsia postpartum, die of secondary conditions, the result of letting the convulsions continue too long. The indication is therefore to empty the uterus at once. The text-books are very conservative on eclampsia. They first state what to do to eliminate the poison; next, to control the convulsions, and last, they tell about the obstetric treatment, but they do not urge the quick and prompt evacuation of the uterus.

If that is the line of treatment the next question is how best to empty the uterus. In cases in which labor has advanced and the cervix is dilated, it is easy to apply forceps after rupturing the membranes. The larger number of cases of eclampsia we have and the worst cases are those in primiparæ, in whom there is an intact cervix, rigid and undilated, and in whom labor has probably not begun. Such a uterus can not be emptied quickly by manual dilatation, by the rubber bag, or by the Bossi dilator. Either abdominal or vaginal Cesarean section must be done. The maternal mortality in abdominal Cesarean section is high; the fetal mortality low. I want to say something in favor of vaginal Cesarean section. The operation is not popular. At the session in Chicago Dr. Carstens, in discussing my paper, said that vaginal Cesarean section was such a simple thing that every general practitioner ought to be prepared to do it. I disagreed with him and agree with what has been said to-day, that the operation should be done only by a man who does vaginal surgery; and, done by such men I think it is the most valuable obstetric practice in eclampsia in primiparæ.

Dr. C. C. Frederick, Buffalo: I do not think that Dr. Fry had any right to assume that I believe in sacrificing any patient with puerperal eclampsia simply because I recommended the use of chloretone. I feel sure that Dr. Fry would do anything to control the convulsions while he was getting the baby out of the uterus. Chloretone will do that. I take the baby out just as quickly as I can, but I believe in the use of chloretone to control the seizures.

Dr. Reuben Peterson, Ann Arbor, Mich.: I am glad to hear Dr. Fry approve of vaginal Cesarean section. I am a believer in the operation, but I disagree with him in regard to the use of this operation by the general practitioner. It is not an especially easy operation, but what under certain conditions is the practitioner going to do? When he encounters one of these cases out in the country he can not send ten, fifteen or twenty miles for a specialist. If he could do that it would be all right, but he has to meet the emergency as he finds it, and how shall he do this? Take the kind of patient Dr. Fry is speaking of, a primipara with rigid cervix. We all know what dilatation of the cervix under these conditions means. The practitioner begins before breakfast, goes home to lunch, returns and continues the dilatation, and then finally, after having infected his patient, delivers her. Given such a condition, what operation will do the least damage? I maintain that the general practitioner under such conditions will do the least damage by doing a vaginal Cesarean section rather than manual dilatation. The only other operation is dilatation with the Bossi instrument, the use of which will do far more damage than the vaginal Cesarean section. The latter operation is one which the general practitioner need not hesitate to peform, for the life of the woman depends on emptying the uterus quickly and I firmly believe that that is the proper treatment in eclampsia. He makes an incision anteriorly or posteriorly, as the case may be. He pushes up the bladder, splits the cervix and delivers by version. Vaginal Cesarean section is a much simpler operation than high-forceps delivery, yet the high-forceps operation is thought perfectly proper for the general practitioner to do. In our schools the students are taught to do this dangerous operation, and yet when it comes to a much simpler operation, splitting the cervix from below, the practitioner is told that he should not do it. I am not a believer in indiscriminate operating by the general practitioner, but when the emergency arises and he has to empty the uterus, he will do this with better results by the vaginal Cesarean section than by manual dilatation.

Dr. J. E. Welch, New York: In the diagnosis of eclampsia by examination with the ophthalmoscope, the examinations were made in a number of cases, not by me or any one inexperienced in the use of the ophthalmoscope, but by no less an authority than Dr. Arnold Knapp. I have his word for these changes. Of course pregnant women dying of convulsions may have hemorrhages in the background of the eye. These patients may be suffering from nephritis as a primary disease in which hemorrhages are not uncommon. It is possible for the convulsions to be produced by other conditions than those which cause the liver changes mentioned. As to bacteria being the cause of eclampsia I can say, after making many blood cultures, that I have never found it so.

I did not mean to give the impression that autolysis occurred in one case only. In the section marked autolysis, the cells are very much enlarged and retain their outline, but the protoplasm appears to have been dissolved. One liver showed this condition throughout and it can be found in nearly all the cases in isolated cells. Women dying of convulsions often do not show these advanced liver changes, and again others dying without convulsions may show them; from which we may assume that the convulsions are not always produced by the liver lesions.

The urine has been responsible for induction of many labors. At first it was albumin which was responsible for the induced labor, then urea. Many a man has terminated pregnancy because of a low urea percentage. Then the nitrogen and the high ammonia content came in for attention. These changes only indicate a disturbed metabolism and are found in conditions other than pregnancy, and from which recovery often takes place. No one of these things can be depended on as an absolute criterion. The finding of leucin and tyrosin is most unsatisfactory. Their presence cannot be determined by the microscope, for crystals resembling them often, when submitted to some more ultimate test, prove to be a different composition. The blood pressure in these cases is usually high. Some patients will have convulsions when the pressure is below 160. We are now familiar with the pathology of eclampsia from the standpoint of morphology, but we are in need of some certain means of diagnosis to determine which patients are in danger and which not.

The obstetrician should be one of the broadest men in the profession of medicine and able to study his case from all possible standpoints. Usually it is the young man recently out of college to whom the older practitioner turns his obstetric cases. The greatest evil comes through the midwife who is untrained and cannot recognize the danger signals in this condition. This Section of the American Medical Association ought to take some action toward limiting the practice of midwives. In these cases the lives of two persons are endangered, and since we find no one pathologic condition that will tell us which is the dangerous case and which is not, the obstetrician should be thoroughly trained in the interpretation of clinical signs both by the bedside and through the laboratory.

Dr. Ross McPherson, New York City: I think I stated in my paper that chloroform was used. Dr. Wetherill thought I advocated the use of it. It was because I objected to its use that I tried to get something else and began the use of scopolamin in the doses of which I spoke. I do not think scopolamin can be trifled with indiscriminately, and I am inclined to think that the dangers of chloroform are over-rated, because there is so much of it used without any apparent trouble. However, the lesions that one does find posmortem, agree with the excessive use of chloroform. I do not agree with Dr. Wetherill that edema is an extremely important symptom. I see many patients with an excessive amount of edema who do not have eclampsia and who recover without trouble. I admit that it is distressing to have a patient who is absolutely water-logged. I have had one or two recently who have had quite as much edema as any patients I have ever seen, with absolutely no other symptoms at all.

Regarding vaginal Cesarean section, Dr. Peterson sums up the matter very well in saying that if the obstetrician knows the technic it is not a difficult operation. But the trouble is that the general practitioner does not know the technic and has not the opportunity to get the experience. It is very simple to say, make an anterior incision in the cervix and a transverse incision in the vaginal vault and push the bladder out of the way; if not enough room, then make a posterior incision, go in and push the rectum out of the way, but it is difficult to do it. Furthermore, these patients have a way of bleeding quite extensively. I think the operation has a distinct time and place, but that the indiscriminate use of it is an extremely hazardous thing.

THE TREATMENT OF DIABETES MELLITUS*

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The treatment outlined in this paper has been followed during the past two years in a number of cases of diabetes mellitus of various types; old cases in old subjects, more recent cases in younger subjects. From the experience thus gained I have been able to outline a regimen which, when adapted to the individual peculiarities and idiosyncrasies of the patient and supplemented by the administration of atropin, which I shall discuss in greater detail presently, has given very satisfactory results. The amount of sugar excreted has fallen rapidly, the patients have gained in weight, their carbohydrate tolerance has increased, their general condition has improved, they no longer ask for great quantities of food and of water, and they seem to be able to keep up their treatment over a long period without undue craving for carbohydrates.

While the majority of my patients have been adults, I shall at present consider only cases of diabetes occurring in juveniles. After a brief outline of the histories of three cases. I shall discuss the treatment under the following headings:

I. The administration of fats.

II. The presence of acetone bodies in the urine and their relation to strict protein diet.

III. The quantitative limitation of the proteins and fats.

IV. The administration of drugs.

REPORT OF CASES

CASE 1.—*Patient.*—Willie S., aged 9; no family history of diabetes. Except for measles in early childhood and a tonsillotomy three years ago he had always been well; had always had nocturnal enuresis. Present illness was of four or five months' duration. Mother had noticed an increased amount of urination, together with excessive thirst and bulimia. He was growing thinner and weaker. There had been a gradual progression of these symptoms. On admission to hospital, Oct. 15, 1908, he was passing between 4,000 and 4,500 c.c. of urine containing 250 gms. of sugar, acetone and diacetic acid. He weighed 56 pounds and was in poor physical condition.

Course of Disease Under Treatment.—He was put under the treatment I shall outline presently, and by the middle of January (three months) was sugar-free, passed between 1,500 and 2,000 c.c. of urine, weighed 61 pounds, and had lost his diacetic acid. His urine continued to show acetone until February 1. Since then, with the exception of occasional days on which he had a slight glycosuria due to his having surreptitiously obtained cakes or other forbidden foods, his urine has been free from sugar. He weighs 70 pounds. He is still under observation in the hospital.

CASE 2.—*Patient.*—Barney O., aged 11; admitted Feb. 27, 1909; discharged April 24. Father is "nervous." There was no family history of diabetes. There were three other healthy children. Mother had five miscarriages. Patient had the usual diseases of childhood. Patient, six years before admission, suffered a blow over the right eye and a fall from which he was unconscious for ten minutes. He was a nervous, sensitive child and had had nocturnal enuresis since infancy. Three months previous to admission he began to lose weight and mother noticed an increased thirst and appetite. Patient began to cough and expectorate blood (?). Weakness increased and urine was found to contain sugar. On admission he passed between 2,000 and 3,000 c.c. of urine, containing 78 gms. of sugar, acetone and diacetic acid. He weighed 73 pounds.

Course of Disease Under Treatment.—Diacetic acid disappeared in ten days under treatment. Acetone persisted for two weeks longer. He gained weight and the urine gradually lost sugar. By April 10 his urine was sugar-free and he weighed 84 pounds. The urine was still sugar-free on June 9, 1909.

CASE 3.—*Patient.*—Bertha N., aged 14; admitted Jan. 10, 1909; discharged February 26; well until present illness. No diabetes in family. Menstruation began one year before admission, regular; amenorrhea for past three months; for past two weeks the patient had noticed bulimia, excessive thirst and frequent micturition. She voided large quantities of pale clear urine; thought she had grown thinner. On admission she passed from 1,500 to 2,000 c.c. of urine containing acetone and diacetic acid and about 25 gm. of sugar. She weighed 90 pounds.

Course of Disease Under Treatment.—Diacetic acid disappeared in three days, acetone in two weeks. Sugar diminished and weight increased. On February 24 the urine was free from sugar and the patient weighed 97 pounds. She insisted on leaving the hospital. This case, as well as the preceding one, has been under my observation since leaving the hospital. The urine of both patients has remained free from sugar; their general condition is excellent.

I. ADMINISTRATION OF FATS

All authorities on diet in diabetes recommend the administration of large quantities of fat on account of its high caloric value and its easy assimilation. This is to supply the deficit in the caloric value of the food due to the withdrawal of the carbohydrates. I have found, however, that the large quantities of fat ordinarily used often cause severe digestive disturbances, such as anorexia and diarrhea, with consequent loss to the patient of all that had been gained by weeks of careful treatment. In those patients who were given only small quantities of fat nothing but good effects were observed. The sugar excretion diminished, and eventually disappeared, the patients gained weight, and felt better than those who were on a rich fat diet.

In some cases vegetable fats can be substituted for animal fats with great advantage. Olive-oil is the best form in which to administer fat, and is especially well borne by young subjects. It should be given in gradually increasing doses, from one teaspoonful to two tablespoonfuls and more after each meal.

II. ACETONE BODIES AND THEIR RELATION TO PROTEIN DIET.

The question arises whether or not we shall continue our attempt to reduce the glycosuria by the withdrawal of carbohydrates in the presence of large quantities of acetone and diacetic acid. This is the problem the practitioner is asked to face in all severer cases. He finds in the text-books that when acetone bodies appear in the urine he is immediately to add carbohydrates to the patient's diet to ward off the onset of coma. The results of my observations have led me to the conclusion that this dictum must not be applied indiscriminately, and that in very many cases of acidosis a strict protein diet is not merely not harmful but even distinctly beneficial.

The carbohydrates in severe diabetes do not enter into the patient's economy. They increase the hyperglycemia, are excreted as glucose in the urine, and often prevent but little, if at all, the formation of the acetone bodies.

When a healthy person is suddenly deprived of all carbohydrate food, acetone, above the small quantity present normally, usually appears in the urine. Diacetic and beta-oxybutyric acids also appear occasionally. All these acetone bodies will disappear in a few days, however, even though the carbohydrates continue to be withheld. In the majority of cases of diabetes, especially in those of a milder type, the same rule holds good. Most of the patients who enter the wards of Mount Sinai Hospital with diabetes show acetone, and many of them have diacetic and beta-oxybutyric acids as well. I have up to now been fortunate in never having seen a single case in which coma followed a strict protein and fat diet to the exclusion of all carbohydrates.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Those patients who have been under observation and have been kept on a strict carbohydrate free diet for some time form a different class. If they develop acetone bodies it is necessary to allow them some carbohydrates, with a corresponding diminution in proteids, until the diacetic acid diminishes or disappears. We may thus be able to prevent the onset of coma.

In the three cases whose histories I have given there were acetone and diacetic acid present on admission. The first patient was not put immediately on a rigid diet; he was given milk and a little fruit; but in the other two children even the presence of the acetone bodies did not deter us from putting them on a strict protein-fat diet, with the result that diacetic acid, acetone and sugar gradually disappeared from the urine.

III. CALORIC VALUE OF DIET

It has been held that in the ordinary metabolism of a healthy human being living on a mixed diet an amount of food averaging 35 to 40 calories per kilo of body weight is necessary to keep up the nutrition. In diabetes, therefore, when we remove the principal source of energy, the carbohydrates, fats have been used to supply the deficiency, and a diet extraordinarily rich in fat has been the rule. I may run contrary to this generally accepted rule when I say that 35 to 40 calories per kilo are more than necessary, at least in patients who are mostly at rest in bed. My contention is clearly proved by the fact that my patients not only kept up their weight, but even laid on flesh on a smaller number of calories. This observation is not unique. Naunyn mentions a case in which for several months a patient was kept on a diet averaging about 25 calories per kilo. During this time the patient gained 13 pounds in weight.

Whether this is due to the perfect rest, mostly in bed, or whether diabetics, owing to the altered metabolism, are able to use the excess of nitrogenous food to better advantage, I do not know. These are open questions to be decided, perhaps, by future investigation.

The first child was on a liberal protein and fat diet. In the early part of his stay in the hospital his diet was equivalent to about 80 calories per kilo of body weight. During this time he continued to excrete large quantities of sugar and lost weight rapidly. Later the caloric value of the diet was very much reduced by diminishing the proteids, but not the fats. On this limited diet the boy improved very rapidly.

As an example of the diet at this time we find the following:

Tomato soup..	300 gm.	Soup	300 gm.
Spinach soup..	90 gm.	Chicken	60 gm.
Pickle	30 gm.	Eggs (4)	120 gm.
Apple	180 gm.	Almonds	120 gm.
Lettuce	30 gm.	Tomato	120 gm.
Sauerkraut ...	60 gm.	Watercress soup.	150 gm.
Boiled beef....	180 gm.	Olive-oil	60 gm.

The daily diet selected from this list totalled 2,180 calories, averaging 78+ calories per kilo of body weight. Later diets were so arranged that the patient received an average of 30 calories per kilo.

The other two children were given a protein diet with no other fat than that on a little bacon (one or two ounces), and on their meat, which they preferred rather lean. They did well, gained weight, and lost their glycosuria on a diet averaging below twenty-five calories per kilo. As an example we find:

Eggs	325 gm.	Asparagus	40 gm.
Meat	100 gm.	Celery	37 gm.
Chicken	55 gm.	Pickle	70 gm.
Fish	135 gm.	Tomato	125 gm.
Spinach	77 gm.	Soup	300 gm.
Coffee	240 gm.		

A total of 750 calories averaging 21+ calories per kilo.

These diets are not specially selected but were chosen at random from the diet lists without reference to the patients' history charts.

In nearly all cases of any duration that come under my observation the patients are in the habit of taking enormous quantities of food and in some cases there is marked distention of the stomach and intestines. These patients complained of a feeling of emptiness on our reduced diets. Spinach, tomato or cabbage soup and green salads served well to fill up without disarranging their digestion or adding much carbohydrate.

After a short time, due partly to the diminution or cessation of the sugar output and partly, I am sure, to the administration of large doses of atropin, my patients lose this feeling of hunger and are content with smaller quantities.

The rule in feeding these patients is to give them as much of the prescribed food as they demand, admonishing them, however, that it is better for them to eat little. The daily diets that we have recorded do not, therefore, represent the allowance of food, but rather the amount consumed by the patient. This is an important point, as it shows the possibility of continuing a low diet over a considerable time without causing the patient to become dissatisfied with the meagerness of his fare.

IV. THE ADMINISTRATION OF DRUGS

Whenever a number of remedies are offered for the treatment of a diseased condition it is certain that they are alike in one respect, their inefficiency. There is hardly a drug that has not been tried in an attempt to diminish the glycosuria.

There are, however, three drugs to which I wish to direct attention. They are sodium bicarbonate, opium and atropin.

The use of sodium bicarbonate is usually limited to the control of acidosis. I have received the impression, however, that when given in conjunction with a carbohydrate free diet and in sufficiently large doses—30 to 40 gm. a day—it exerts a distinct inhibiting influence on the excretion of sugar. This statement has also been made by Reale. That this drug has an influence on the pancreas, the organ that is most concerned in diabetes in man, is further shown by the experiments of Pawlow on dogs and more recently by the beneficial action of sodium bicarbonate combined with strict carbohydrate free diet in the healing of pancreatic fistulas in man (Wohlgemuth).

Opium and its alkaloids, morphin and codein, enjoy a great measure of well-deserved popularity. The objections to these drugs are the danger of establishing a drug-habit and the uncertainty of their action. In some cases there is no response at all to their administration; in others as soon as the drug is stopped the glycosuria returns and much larger doses are then required in order to control the sugar excretion again.

It is in those cases in which the neurotic element is present that opium is especially valuable. One such patient, a woman, very tractable, very amenable to treatment, who had no opportunities to indulge in forbidden food, would repeatedly have attacks of depression or excitability accompanied by an increase in glycosuria. These attacks were always allayed and the amount of sugar reduced by liberal doses of codein.

It has been my good fortune to discover that atropin has a more marked influence on the sugar excretion than any of the drugs that have heretofore been tried. It has the advantage of being well borne in large doses, if given cautiously and in gradually increasing amounts. In two and a half years' clinical experience I have not found that a habit has been established in any case or that there are any bad effects on the general health from its prolonged administration.

With atropin the glycosuria disappears much more rapidly than with a carbohydrate-free diet alone. When, with the cautious increase in carbohydrates in patients whose urine has become sugar-free, sugar again appears, it is often possible to suppress the sugar excretion solely by atropin without reducing the carbohydrates. In other words, the carbohydrate tolerance is greater with atropin than without. The sulphate is the form most generally used in the wards. Methyl bromid (Merck) has certain advantages. It is much less toxic than the sulphate and is therefore safer for patients who are not under daily supervision. Its action is not as striking as that of the sulphate. The glycosuria does not disappear as rapidly nor is the limit of carbohydrate tolerance raised as soon as with the sulphate. Its expense, too, limits its use somewhat.

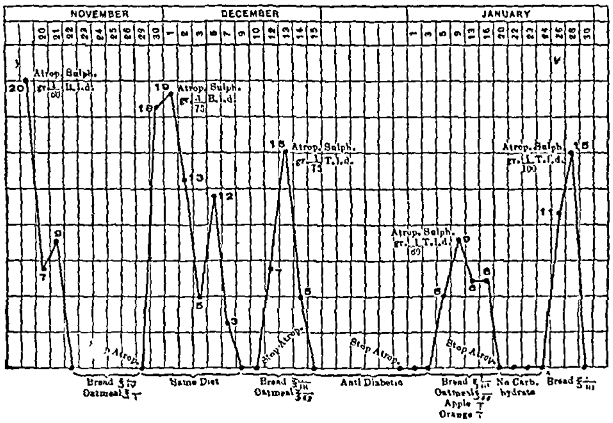

Chart showing amount of sugar (represented by isolated figures) excreted in urine of a woman of 35 under administration of atropin.

Extremely large doses of methyl bromid of atropin are well borne if given with care. I have found that an initial dose of gr. 2/15 t. i. d. can be safely used in adults and can be increased by gr. 1/15 at a time until gr. 8/15 are being given three times daily. In one instance three grains were given daily over a short period with no other disagreeable effect than dryness of the throat. In children I would advise gr. 1/60 t. i. d. as an initial dose.

With the sulphate the initial dose in adults was gr. 1/150 t. i. d. increased slowly in some cases up to gr. 1/20 t. i. d. In the nine-year-old child the initial dose was gr. 1/250 t. i. d., which was increased up to gr. 1/10 per diem. Not all of my cases required anything approaching these maximum doses. *Often a third of the maximum dose accomplished all that I wished.*

When the toxic effects were observed, a rapid pulse, flushed cheeks, dry throat and dilated pupils, I either stopped increasing the dose for a time or stopped the drug entirely. Later it was always possible to resume its administration and I was then able to give larger doses without discomfort to the patient.

In conclusion let me present graphically the effects of atropin administration, both on the reduction of sugar and on the increase in carbohydrate tolerance.

As an example I have selected the chart of a woman of 35 years, who was admitted to the hospital Nov. 19, 1906. At this time there was a daily sugar excretion of 20 gm. On a rigid antidiabetic diet, together with atropin sulphate, gr. 1/60 b. i. d., the sugar disappeared in four days. While continuing the atropin four ounces of bread and one ounce of oatmeal were added to the daily diet without the reappearance of glycosuria. On November 28 the atropin was stopped and sugar promptly appeared in the urine. On the readministration of the atropin without change in the diet the sugar gradually fell, and by December 10 it had again disappeared. Despite a partial withdrawal of carbohydrates (bread 3 ounces, and oatmeal ½ ounce) sugar now reappeared in the urine as soon as the atropin was stopped, to disappear with the resumption of the drug.

The patient was now put on a strict carbohydrate-free diet with the continuous administration of atropin for two weeks. On this diet, even when the atropin was stopped, the urine continued to be sugar-free, but on the addition of 3 ounces of bread and ½ ounce of oatmeal the sugar excretion rose promptly to 9 gm. It is, therefore, evident that a smaller amount of carbohydrates sufficed to produce glycosuria when no atropin was being administered. To exclude the possibility of coincidence the experiment was repeated, with the same result.

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ABSTRACT OF DISCUSSION

Dr. Abraham Jacobi, New York City: Diabetes, while a rare disease half a century ago, has become comparatively common. During my work in the clinic of Bonn, eighteen months of continuous service (from 1849 to 1851) furnished but a single case. At that time the disease was considered absolutely fatal. I may have seen fifteen cases in children under 12, all the patients dying and in a comparatively short time, few living more than a few months after diagnosis was made.

On the other hand, there are authors who profess to have had many recoveries. Wegeli collected 108 cases in children with 39 (!) recoveries; Külz reported 30 years ago 111 cases, with 6 recoveries; Langstein, in 1905, reported 8 cases, in 3 of which the patients recovered; Bogoraz reported 500 cases (13 patients under 1 year, 92 from 1 to 5 years, 147 from 5 to 10 years and 234 from 10 to 15 years old) with a mortality of 90 per cent. Since that time he has collected 56 more with 46 deaths. The large number of recoveries reported by some physicians has often made me doubt the diagnosis. Possibly many a case was not one of diabetes, but a pentosuria which has been differentiated only a comparatively few years, so late indeed that Janeway (*Am. Jour. Med. Sc.*, September, 1905) could not collect more than 21 cases.

The etiologic factors are various. Blumenbort believes strongly in heredity. Other causes given are neuropathy, epilepsy, insanity, heredosyphilis, injuries to, or tumors of, the brain, atrophy of the pancreas, dysentery, measles and scarlet fever. In the *Semaine Médicale*, in 1900, Fournier reported a case of diabetes in a heredosyphilitic child of 8, who recovered after a course of antisyphilitic treatment. A family tendency is frequent; I have observed a number of cases in adults in the same family.

Isenflamm saw 7 diabetic children in one family: Thomas, 3; Naunyn, 5; Caron, 3 (3 months, 1½ years and 3½ years). I have seen 2 boys, 3 and 5 years old, respectively, who had a daily output of from 2 to 4 per cent. of glucose. They are at present 11 years older, have been seen by many physicians in America and Europe, have never been without an equal degree of glycosuria and have always been and still are remarkable specimens of physical development and robust health. The specific gravity of diabetic urine in children whom I have observed has varied from 1.005 to 1.044. The first instance of urine with a specific gravity of 1.0007, I found in a nervous girl of 17. The highest percentage of sugar in any case was 6.5; Hugnier reports 8.5 per cent. in a child who voided *5,000 c.c. (1¼ gallons) daily*, and Leroux reports 10.5 per cent.

In the treatment of diabetes it should be remembered that "gluten flours" are mostly unmitigated swindles. I never examined any without finding large amounts of starch. Of 13 specimens examined by the New York Health Department, only 2 were found to be "comparatively free from starch." The good results von Noorden has attained with his oatmeal diet show that carbohydrates are not so dangerous as many believe, particularly is that so when their antifermentative effect is required to abate acidosis which so frequently follows a case of fat feeding. Animal fat (cream) is a frequent cause of the formation of indican and acetone bodies; vegetable oils are better tolerated; milk is generally well borne and is useful in large quantities when taken slowly. I have given antipyrin with some advantage, but have never administered it for a long time. Adults have taken a gram (15 gr.) of sodium salicylate three times a day after meals, always with as large a dose of sodium bicarbonate. Alkali should be given constantly in large doses. The taste of bicarbonate of sodium is not loathsome to everyone. I believe that I have seen good results from the use of arsenic; it seems of value in adults. I begin with moderate doses, amply diluted after meals, and increase the dose slowly but persistently. In this way 10 minims a day may gradually be increased until 50 or 60 minims are taken without toxic symptoms. Opium is a remedy which surely diminishes the quantity of urine and of glucose. *Its detrimental effects are so well known and still more feared—quite often unnecessarily—that it is important to insist on its possibilities for good.* I feel sure that there are very few patients with diabetes that can not be benefited by opiates during some part of the treatment. It may often be combined with atropin or belladonna.

Having seen Dr. Rudisch's patients, I am impressed with his results. That is why I have followed his advice in a fair number of cases during the past half year or more. In so doing I have an advantage on account of the knowledge obtained during the past fifty years, that in order to attain the effect of atropin it must be given in active doses.

The first symptom of a full, that is, active, dose, is the flushing of the child's cheeks, making it look "feverish" half an hour after each dose, continuing for a period of half an hour or more—not a dilated pupil and no particular dryness of the throat. If a child of 2 years flushes up after 6 or 8 or 10 drops of the tincture of belladonna, let that be the dose. As soon as the effect is no longer needed, increase the dose, drop by drop. In administering atropin to adults, one must, in most cases, get the dry throat and rather blurred vision; to modify the effect an opiate may be added. I have never used atropin in a case of diabetes in a child for a long time.

DR. C. G. KERLEY, New York: The two boys have not had less than 6 per cent. of sugar in the last eight years. Including those two, I have seen eight undoubted cases of diabetes in children. The other six cases were rapidly fatal. One patient was *nineteen months old* and died within three months. The boys, 11 and 15 years of age, are clinically perfectly well. Diabetes in children is associated with much thirst and the passage of large quantities of urine. These boys have good appetites and sleep well. There is no excess in the passage of urine and no excessive thirst. They have been a puzzle to two continents. The older boy, six feet in height, and weighing 170 pounds, took three gold medals and three silver medals this year for long jump, high jump and other athletic feats. The younger brother is of exactly the same type. They excrete sugar on a very strict diabetic diet, and though the excretion of sugar continues, they continue to thrive and grow. They are living on a proteid diet and what the outcome will be we do not know. They are not ill, do not feel badly, and never have. The fact that sugar was found occurred through the desire of the mother to know that her four children were all well, as mothers will. She sent me a specimen of the urine of all four and I found the sugar in the two cases. The sugar was only discovered because the mother wanted the urine examined on general principles.

DR. JULIUS RUDISCH, New York: Dr. Jacobi means that to get the effect of atropin one must push the remedy until the physiologic effect is obtained. To a child I have given as much as 1/10 grain of atropin in one day and to an adult as much as 1/6 grain in a day without any bad results.

ACANTHOSIS NIGRICANS

A SYMPTOM OF A DISORDER OF THE ABDOMINAL SYMPATHETIC [*]

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HISTORICAL SKETCH

In 1889 a woman who presented a group of symptoms hitherto undescribed entered Dr. P. G. Unna's clinic for skin diseases in Hamburg. The case was referred to me for description and publication, and the report appeared in the *International Atlas for Rare Skin Diseases* in 1891 under the title of "Acanthosis Nigricans." Before the publication of my paper a similar case was observed by Janovsky of Prague, who sent the description of his case to the *International Atlas,* and the two cases appeared in the same issue, Janovsky accepting for the disease the name which had been proposed by Unna.

On the occasion of my visit to Paris in the summer of 1890, Darier showed me two cases of the same disease which had shortly before come under observation at the Hospital St. Louis, and which he published in 1893 under the descriptive title of "Dystrophie papillaire et pigmentaire." Since that time about fifty cases of the disease have been recorded in various parts of the world, and the condition is now recognized everywhere as a distinct clinical type. But an acquaintance with the condition, which is certainly more frequent than published reports would indicate, has evidently not been brought home to the profession in general, and it is the purpose of this paper to aid in diffusing knowledge of a disease which is of the gravest import to the patient.

DESCRIPTION

The cutaneous manifestation of the disease may be summed up as a widespread pigmentation and papillary hypertrophy. These two disturbances are in the main associated, affecting the same regions, though occasionally there is pigmentation without noticeable papillary hypertrophy, and on the mucous membranes there is the papillary hypertrophy without pigmentation. The regions of the skin affected are, in their order of frequency in the cases recorded, the axillæ, the neck, the external genitals, the groin, the face, the inner aspect of the thighs, the flexor surfaces of the elbows and knees, the umbilical region, the perianal region, the back of the hands, the breasts, the gluteal region, the hypogastrium, the forearms, the perineum, the eyelids, etc., and there is usually the most perfect symmetry in this distribution. For the recognition of the disease the symmetry and typical localization are scarcely less important than the occurrence of the cardinal symptoms of hyperpigmentation and papillary hypertrophy, while of secondary importance is the absence of certain other conditions, namely, scaling, hyperkeratosis, xerosis and itching.

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[*] Read in the Section on Dermatology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The first published case of this disease serves so well as the type of the cases subsequently recorded that I can best convey an idea of the clinical picture of the disease by repeating the description given at that time.

REPORT OF TYPICAL CASE

Patient.—Mrs. L., aged 62, widow. No history of tuberculosis or of syphilis. Patient had always enjoyed excellent health. Her skin disease had existed for about eight weeks, and had attacked all the affected regions at about the same time. There was at first everywhere, except on the hands, a slight prickling sensation which ceased in the course of a few days.

Present Illness.—The disease affected the upper extremities, the neck, the mouth, part of the trunk, and the genitocrural regions. The skin of the hands was in general of a dirty brownish color; on the back of the hands there were patches of a bluish-gray, somewhat deeper in color along the course of the veins. The normal areas of the cuticle were very prominent, standing out somewhat convex and with a glassy shimmer; some of them showed several glittering points corresponding to the smaller subdivisions of the cuticular areas. The natural furrows were deeply marked, the skin of the entire hands looking as if it were too large for them. On the back of the proximal phalanx of the thumb there was a patch the size of a shilling in which the dirty discoloration and the prominence of the cuticular areas were especially marked, giving the patch the appearance of a diffuse flat wart. The skin of the entire hand was rough and inelastic. The palms were slightly darker than normal; their furrows and folds were strongly marked and the skin felt dry, hard and thickened. On the anterior surface of the lower third of the forearm the peculiar discoloration was very striking and numerous small brownish patches, like freckles, were to be seen. On the dorsal surface of the forearms the discoloration was especiallly marked over and along the course of a vein. On the upper arms there were several lentil-sized warts which were said to be of recent development. The neck appeared as if encircled by a dirty dark grayish band which sent irregular offshoots downward toward the sternum, clavicles, shoulders and scapulæ, and upward toward the face. The skin here showed the changes described as existing on the hands, but in a much more marked degree. Some of the cuticular areas projected above the general level almost like papillæ, others were flatter; the whole running together to form a diffuse, discolored, warty surface. Similar changes were seen in both axillæ and under both breasts, only that here the coloration was rather grayish-white. On the abdomen there were a few horizontal linear indications of a similar condition. The crurogenital folds and the large labia showed the same changes in a marked degree. The entire region presented a grayish discoloration and diffuse warty prominences, the latter especially marked in a grayish-white patch, about 3 cm. in diameter, to the right of the vulva. There was a slight indication of the disease on the chin and on both auricles. From the beginning the tongue and mouth were painful. The anterior half of the hard palate was covered with fine granulations resembling small venereal warts but softer to the touch than these growths. A few outlying patches of a similar growth were seen on the posterior half of the palate. The upper surface of the tongue, especially in the middle line, was covered with more or less prominent condylomatoid growths, the morbid process sparing only a narrow strip on each side extending from behind forward to a point above 2 cm. from the tip. These lateral strips were free from prominences, smooth, and of a bluish-white color, and at their borders, as they merged into the affected region, there were numerous small discrete papillary growths. Underneath the plate of artificial teeth the depressions for the teeth on the lower jaw were seen to be occupied by similar warty growths. A like condition was seen on the mucous membrane of the upper lip and extended for about 2 cm. beyond the commissures of the lips, as an irregular prominent grayish mass resembling a large venereal wart.

Course of Disease.—After four weeks of energetic local treatment the condition remained practically unchanged and the patient left the clinic. Three or four months later a gradual improvement set in and the patient's skin and mucosa finally resumed a nearly normal appearance. By this time, however, she was complaining of great general debility and there was a very marked edema of the ankles. The daily quantity of urine was under the normal, but there were at no time albumin or renal elements in the urine. Meteorism and a slight abdominal ascites were noted. The general asthenia and the oliguria grew more marked till complete anuria set in, the patient dying from heart-failure, without symptoms of uremia, ten months after the onset of the cutaneous disorder. The clinical diagnosis of abdominal carcinoma occultum was made. A postmortem examination was not permitted.

ASSOCIATION WITH CANCER

When, in 1893, Darier published his two cases, in each of which there was an abdominal cancer, one with unmistakable clinical symptoms of that disease, the other showing extensive carcinoma of the abdominal organs on autopsy, the thought lay near that the peculiar cutaneous disturbance was etiologically associated with the abdominal cancer. This suspicion was strengthened by a series of cases which soon followed, in all of which there was either a demonstrable carcinoma of an abdominal or pelvic organ or strong clinical grounds for suspecting a malignant growth in this region.

BENIGN OR JUVENILE FORM

Then came several observations of a similar cutaneous condition—pigmentary and papillary hypertrophy—in children or adolescents who seemed in excellent health and in some of whom the cutaneous disorder had existed without change for many years. These juvenile cases obviously required a modification of the view that acanthosis nigricans was dependent on the presence of a malignant growth. As the observations of juvenile and adult cases multiplied some differences were noted in the cutaneous manifestations of the two classes of cases as well as in their course. In the juvenile cases the skin dystrophies are rarely so well marked or so extensive as in the adult cases. In them the disease, once established, usually remains stationary for an indefinite period—in one case over forty years—while in the adult cases the cutaneous lesions undergo fluctuations in their development, sometimes even disappearing completely. In the juvenile cases the health of the patient seems little, if at all, disturbed, while in the adult cases the patients rarely survive more than two years after the appearance of the skin lesions, their average duration of life being a little over one year.

UNPUBLISHED CASES

Cases of acanthosis nigricans have been reported from almost every country of Europe—France, Germany, Austria, Russia, England, Switzerland, Norway, Finland, Bulgaria and Turkey; but from the United States only one case has been published, that of Dr. Roblee of Los Angeles, a case which belongs to the juvenile type. Through the kindness of Dr. Grover Wende of Buffalo I am able to add two unpublished cases to this list, one occurring in a woman, aged 42, of American birth, suffering from cancer of the uterus with abdominal metastasis. The papillary and pigmentary dystrophy affected the neck, axillæ, umbilicus, groin, anogenital region and elbow. In the mouth there were large papillary excrescences; under the breasts there was pigmentation without papillary hypertrophy. The patient died about two and a half years after the onset of the cutaneous disorder. I saw photographs of this case, which was typical. Dr. Wende's second case occurred in a boy of Italian parentage, 8 years old, the disease having appeared one year before. The skin lesions, says Dr. Wende, were well marked and occupied the usual regions. The child had a greatly distended abdomen, was under observation about one year and during that time lost weight. The case was lost sight of and its further course is unknown. It is a question whether this case belongs in the juvenile group, as the patient's age would indicate, or whether there may not have been a malignant growth in the abdomen.

Dr. Ormsby of Chicago informs me that he has seen such a case in the practice of Drs. Hyde and Montgomery in a lad of 15 who was an extreme alcoholic, and I am indebted to these gentlemen for a copy of the late Dr. Montgomery's notes of the case. The patient was 16 years old, in good general health, and weighed 215 pounds (98 kilos). His skin disease began about a year before as a pigmentation in the axillæ, groins and around the neck. Its color ranged from a pale yellow-brown to almost black and was most marked about the nipples, umbilicus, axillæ, inner sides of the buttocks, anus, genitocrural region, over abdomen and neck, and was present in lesser degree over the abdomen, chest, middle of the back, angles of the mouth and the sides of the nose and the eyes. A papillary hypertrophy accompanied the pigmentation, and in general was more marked the deeper the pigmentation, ranging from soft velvety prominences to large wart-like and filiform growths. The mucous membranes of the lips and cheeks (and tongue?) showed beginning thickening and had a grayish color. The case was seen but once, and nothing is known of its further course. It is worthy of remark that alcoholism has been noted in a fair number of these cases.

I have no doubt but that many cases besides these have occurred in this country. I was recently called by Dr. Morris Manges of New York to see a woman, aged 42, *in articulo mortis* from cancer of the colon (a large tumor being palpable in the right hypochondrium) who presented a broad band of pigmentation encircling the neck, and at the back of the neck an area extending from the border of the hair to the sixth cervical vertebra and laterally to the anterior border of the sternomastoid muscle on each side, which presented the typical appearance of acanthosis nigricans, being covered with a uniform, slaty-brown, velvety mass of hypertrophied papillæ of an average height of 3 or 4 mm. On the back of the third and fourth finger of each hand there was a flat, pigmented, warty growth about 6 mm. in diameter; and there were similar but smaller pigmented, flat, warty prominences on the upper surface of all of the toes at their junction with the foot. The mucosæ were normal. The pigmentary and papillary hypertrophy at the back of the neck had been seen by Dr. Manges two and a half years before, but the area involved was then smaller. I have no hesitation in including this case in the group of acanthosis nigricans, though the case is atypical in the slight extent of development of the lesions and their absence from the mucosæ. It may be called an *acanthosis nigricans partialis.*

MULTIPLE PIGMENTED WARTS IN CANCER OF THE COLON

The question arises whether an atypical mild case like this may not be regarded as a connecting link between the fully developed acanthosis nigricans and the condition of multiple small pigmented warts, pigmentary patches and telangiectasis occurring on the abdomen of patients affected with abdominal cancer, to which Holländer[1] has directed attention and to which he ascribes a diagnostic value in the early recognition of cancer of the colon. His observation has been corroborated by numerous writers, and Dr. Willy Meyer of New York, in a communication before the American Surgical Association, 1906, narrates several cases of this kind and does not hesitate to call this condition acanthosis nigricans. He has seen the little warty growths and the pigmentations disappear after successful operation for the colon cancer which provoked their development. For my part I should hardly feel justified in including these insignificant pigmentary deposits and warty growths, limited to the abdominal parietes, in the same group as the severe and extensive lesions of acanthosis nigricans. Certainly the multiple angiomas described have nothing to do with acanthosis. It is nevertheless undeniable that these lesions, representing a papillary and pigmentary dystrophy, however limited, occur in many cases of cancer of the colon and at least the possibility of a related pathogenicity must be admitted.

Including Wende's two cases, the Hyde-Montgomery case and my second partial case, there are a total of fifty-two cases of this disease thus far reported. Twelve of the patients are reported as having died, all of them of carcinoma, with the possible exception of one patient, Burmeister's, to whose case I shall presently refer. It must be remembered that most of these cases are reported at the time they are seen, and their termination is left unrecorded. We can judge of their probable course only from their clinical symptoms. In a recent publication Bogrow,[2] in a tabular list of 49 recorded cases, enters the case of every patient over 20 years of age, with the exception of Brocq's case, which I shall presently consider, as malignant or probably malignant, using this term as implying such grave symptoms as would suggest a fatal termination. "Brocq's case" is an example of the persistence of error. Brocq refers, in the course of a discussion on this subject, to a case of pigmentation in the axillæ and groin with a suspicion of papillary hypertrophy occurring in a healthy woman of 38 in whom all the cutaneous lesions vanished spontaneously in the course of a year. He says distinctly[3] that this is not a case of acanthosis nigricans—"il ne s'agissait pas réellement d'acanthosis nigricans"—but nevertheless "Brocq's case" is constantly referred to. It should be thrown out!

The accompanying table of known cases is taken with modifications and additions from Bogrow's table:

TABLE OF KNOWN CASES OF ACANTHOSIS NIGRICANS

Age.	Author.	Course.
2.	Barsky-Pospelow	Benign.
2.	Buri	Benign atypical.
3.	Wolf-Hügel	Benign.
3.	Spietschka, Case 2	Benign.
5.	Filser	Benign.
8.	Wende, Case 2	Benign?
9.	Frankenstein-Juliusberg	Benign.
11.	Jacquet-Delotte	Benign.
12.	Roblee-Boggs	Benign.
14.	Neumann (Rille, Case 2)	Benign.
15.	Spietschka, Case 1	Benign?
15.	Hyde-Montgomery	Benign?
18.	Mzareulow	Benign atypical.
18.	Françon	Benign atypical.
18.	Rille, Case 2	Benign?
18.	Rille, Case 3	Benign?
19.	Pawlow	Benign atypical.
19.	Spietschka, Case 3	Malignant.
28.	Hodara	Malignant.
29.	Darier, Case 3	Malignant.
33.	Darier, Case 1	Malignant.
34.	Morris	Malignant.
34.	Grouven-Fischer	Malignant?
35.	Burmeister	Malignant.
35.	Becker	Malignant?

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[1] Holländer: Deutsch. med. Wchnschr., 1900, p. 483; Centralbl. f. Chir., 1902, p. 457.

[2] Bogrow: Arch. f. Dermat. u. Syph., 1909, xciv, 291.

[3] Brocq: Ann. de dermat, 1896, p. 1282.

Age.	Author.	Course.
39.	Guérault	Malignant?
39.	Pollitzer, Case 2	Malignant atypical.
40.	Darier, Case 2	Malignant.
40.	Kuznitzky	Malignant.
40.	Collan	Malignant.
41.	Heuss	Malignant.
41.	Tenneson-Leredde	Malignant.
41.	Hess, Case 2	Malignant.
41.	Wende, Case 1	Malignant.
42.	Janovsky	Malignant?
42.	Tomasczewski	Malignant.
47.	Stanislawsky	Malignant?
48.	Bogrow	Malignant.
49.	Hue	Malignant.
50.	Crocker	Malignant?
51.	Gaucher-Photinos	Malignant.
52.	Boeck	Malignant.
57.	Mourek	Malignant?
57.	Kaposi (Grosz)	Malignant.
59.	Tschernogubow	Malignant?
60.	Little	Malignant?
60.	Hess, Case 1	Malignant.
60.	Pribram	Malignant.
62.	Pollitzer, Case 1	Malignant.
65.	Beron	Malignant?
68.	Rille, Case 4	Malignant.
71.	Hallopeau-Jeanselme	Malignant.

RELATION TO ABDOMINAL CANCER

Deducting 17 cases of patients under 20 years of age from the 52 known cases, we have 35 cases of patients over 20 years of age, in 22 of whom, or over 60 per cent., there was certainly or most probably a carcinoma present. In 14 of these cases the carcinoma affected the alimentary tract, in 5 the uterus, and in 3 the breasts; in two of these last there were abdominal metastases. In this list of malignant cases one of Spietschka's is included, though the patient was but 19 years old. This occurred in a young woman who presented a typical and severe case of acanthosis nigricans developing after an abortion and was found to have a chorioepithelioma of the uterus. A radical operation resulted in a cure and four and a half months after the operation all signs of acanthosis nigricans had disappeared. This case may be explained on the assumption that there were small metastatic deposits of the chorioepithelioma in the abdominal cavity provoking a disturbance in the functions of the adrenal sympathetic system, which underwent involution after the removal of the primary tumor. On this point Wells says:[4] "It occasionally happens that after removal of the primary tumor the secondary growths seem to lose their power of proliferation so that they become entirely replaced by fibrous tissue."

To the twenty-two positively or almost certainly malignant cases six more may be added in which the presence of abdominal cancer was on clinical grounds in high degree probable. Altogether we have, therefore, twenty-eight cases (80 per cent.) most probably carcinomatous out of thirty-five adult cases—so large a proportion that the relation of acanthosis nigricans to abdominal cancer must be regarded as established beyond question.

I have referred to Burmeister's case, which is usually quoted as a typical case of acanthosis nigricans in which a postmortem examination showed no tumor of the abdominal organs. In this case the gastric crises, the alternations of anorexia and bulimia, the cardiac attacks, the progressive asthemia, and the death from heart-failure make an unmistakable picture of disease of the adrenal system. The autopsy was made after decomposition had advanced so far that a proper postmortem examination was impossible and the only positive finding was degeneration of the heart muscle, a common occurrence in Addison's disease. For any light it threw on the case, the autopsy may as well have been omitted.

Summing up these adult cases, we may say that in an overwhelming preponderance of the cases there is positive or most probable evidence of malignant disease affecting the organs of the abdominal cavity, and on physiologic grounds we may assume an interference with the functions of the abdominal sympathetic as the immediate link in the causation of the cutaneous manifestations. This is the mechanico-nervous theory proposed by Darier to which I subscribe.

How is it with the juvenile cases? In them there is evidently no progressive growth and we can only speculate that there is a congenital abnormality such as fibrous bands or a benign tumor interfering up to a certain point with the sympathetic functions. One case in which there was a deformity of the thorax and one in which the acanthosis nigricans developed after a blow in the epigastrium lend some color to these speculations. What is still needed to establish the relation between this remarkable dermatosis and a lesion of the adrenal sympathetic system is a thorough postmortem examination.

Note.—For the literature of acanthosis nigricans the reader is referred to Janovsky (Hyperkeratoses, in Mracek's Handb., iii, 97), and to Grouven and Fischer (Arch. f. Dermat. u. Syph., lxx, 237). The more recent cases may be found in Bogrow (Arch. f. Dermat. u. Syph., xciv, 297). To these I must add Pribram's case (Deutsch. Arch. f. klin. med., 1909, p. 407).

51 West Sixtieth Street.

ABSTRACT OF DISCUSSION

Dr. William A. Pusey, Chicago: I can add one case to Dr. Pollitzer's group. Three years ago I demonstrated a case before the Chicago Dermatological Club which, I believe, was accepted as one of acanthosis nigricans without dissent, and of which I subsequently showed illustrations in this Section. It was not a case of the extreme type. The lesions were developed in the mouth and around the neck, in the axillæ and groins, about the navel and perineum, and about the external surface of the elbows. The pigmentary spots were more marked than the papillary hypertrophy. The patient was kept under observation for about two years, and during that time there were no evidences of carcinoma in any part of the body, and I think it is reasonable to suppose that other than carcinomatous forms of irritation of the abdominal sympathetic might be the causative factor. In my case the patient was a man between 60 and 70 years of age, who was obtunded somewhat mentally.

Dr. A. S. Wolf, St. Louis: I would like to mention a case of acanthosis nigricans occurring in my practice several years ago. The patient was a woman of 35, who came to me for treatment of universal inveterate psoriasis vulgaris. Besides the patient presented universal adiposis (weight 205 pounds). The hypertrophy was marked in the collar line of the neck, mostly in the rear, gradually decreasing toward the front. The lines of the skin became deep furrows and the whole had an appearance of lichenification. The skin in both axillæ presented the same appearance, especially on the upper edge of the arm-pits. The skin was of a dirty blackish appearance, in some places darker, in others the pigmentation was less outspoken. Under the finger the involved skin appeared thickened without being indurated. The mucous membrane and the other parts of the skin were free. The patient could not make any statement as to the duration of the process, neither did she allow the excision of a skin specimen. There was no family history with the exception of a case of psoriasis in a sister, who also presents conspicuous adiposity.

Dr. O. H. Foerster, Milwaukee: I have seen five cases of acanthosis nigricans, one of which has already been referred to by Dr. Pusey; the others I saw in clinics abroad. The point that struck me particularly was the etiology, for in all of these cases the patients had been exposed to extreme degrees of heat, two of them being workers in a brick-kiln. Dr. Pusey's patient had been a stoker on a steamer.

Dr. S. Pollitzer, New York: Of course, it is hard to judge of the value of these cases from partial communications. We all know how hard it is to make a clear mental picture of a cutaneous disease from a mere description of it. I have again and again been asked to see cases of supposed acanthosis nigricans, but with the exception of the one reported in my paper, they were all cases of various atypical pigmentations, such as arsenical pigmentation or ichthyosis. One should be a little careful in making the diagnosis of acanthosis nigricans, unless the lesions are typical. In Dr. Pusey's case of pigmentation with papillary hypertrophy, there was pigmentation of the visible mucous membranes, and there were lesions on the posterior surfaces of the extremities; such changes have not been observed in any of the cases reported. Of course, it must be borne in mind that these are atypical of acanthosis nigricans.

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[4] Wells, H. G.: Resistance of the Human Body to Cancer, May 29, 1909 lii, 1737.

In regard to the case associated with psoriasis, which was mentioned by Dr. Wolf, we must remember that there may be pigmentation in psoriasis, especially if arsenic has been used. As to the five cases seen by Dr. Foerster, that is certainly an extraordinary number. That the disease has occurred in persons who have been exposed to great heat is an observation that has been made before in a few of the cases, and can not be regarded other than as a mere coincidence. We must not forget that exposure to great heat is apt to bring about, through hyperemia, pigmentation of exposed parts; but it would require more than that to constitute a case of acanthosis nigricans.

SIMULATED INSANITY[*]

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INTRODUCTION

One simulates insanity who, being sane, by his action and speech or by his suppression of both speech and action, tries to prove that he is of unsound mind. One who is insane may also feign the symptoms of a type of insanity from which he does not suffer. For one simply to assert that he is insane, which is occasionally done, does not constitute simulation of insanity. Such assertion must be accompanied by some evidences of the playing of the part in order to constitute feigning. One dissimulates insanity who endeavors to conceal the fact that he is insane. This pretense of sanity by the insane is a far more common procedure than the feigning of insanity by the sane.

Well-known historical instances of the feigning of insanity are to be found in the classical works on mental and forensic medicine—the feigning of Brutus in the time of the Tarquins, of Ulysses as recorded by Homer, of Solon in an effort to stimulate the Athenians to recover Salamis, and of David in the Old Testament. In each of these cases, and in other similar historical examples of simulation, the methods used to carry out the feigning were of a primitive, or at least of a comparatively simple character. They were, however, the methods which in some cases are still resorted to by the simulator, and this because the popular idea regarding insanity is not much in advance of the views held in the time of the Tarquins. They are methods based either on crude conceptions of the nature of mental disorder, or on the signs of such disorder as observed in two or three types of insanity. Solon's simulation of insanity was, as Dr. Lloyd[1] aptly remarks, an instance of the lawyer and not the client practicing simulation. It may be said, however, that, while the attorney does not himself feign insanity for a purpose, he has been accused, apparently with justice in some instances, of instigating such simulation in the client. Instances of such instigation are, however, extremely rare.

COMPARATIVE RARITY OF THE SIMULATION OF INSANITY BY THE SANE

Contrary to what is believed by members of the legal profession and the public at large, feigning of insanity is rare, and, above all, is rare in cases which come under observation in the private practice of medicine and in institutions for the insane. It is also comparatively rare, contrary to general belief, in cases in which the plea of insanity is entered as a defense in homicide and other cases. The most frequent instances of real simulation are observed in the military and naval service, in prisons, and in asylums or hospitals for criminal lunatics; but even in these it is not as common as is supposed. I have had no experience in the study of insanity, or of its simulation in criminal lunatic asylums, or in either the military or the naval service. My studies in penal institutions have been confined to the opportunities offered by one or two general investigations of the mental status of inmates of prisons, and to the examination of a considerable number of cases held for homicide or other serious offenses. The occurrence in prisons of insanity which is overlooked or disregarded is far more common than the simulation of insanity by prisoners.

In a recent homicide trial in which the plea of insanity was entered one of the medical witnesses for the prosecution, in response to a question by the attorney for the defense, said that he had seen about fifty cases of the simulation of insanity, mostly in the psychopathic wards of one of the hospitals in a large American city. In connection with the Philadelphia General Hospital are such psychopathic or detention wards, with which I have been connected for nearly a score of years, but, strange to say, I have never seen a single case of the feigning of insanity in those wards. Several of my colleagues, with whom I have conferred, have had the same experience.

In a large private and hospital practice extending over many years I can recall only a single case in which I was convinced that genuine simulation had been attempted, this not including the homicide cases to which reference will later be made.

It may happen, of course, that in particular periods a larger number of cases of simulated insanity occur in certain institutions, a fact which accounts in measure for the difference of opinion as to the frequency of simulation in prisoners and insane hospital patients.

OBJECTS FOR WHICH INSANITY IS FEIGNED

The objects for which insanity is feigned are various, among the most important being the desire to escape military service, to exchange less for more comfortable prison quarters, to annul contracts, and to escape punishment for minor or major criminal offenses.

In recent times a number of instances have occurred of the more or less successful feigning of insanity by newspaper reporters who have sought in this way to enter and sojourn in hospitals for the insane, in order to write sensational articles about the alleged abuses in such hospitals.

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[*] Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[*] From the Department of Neurology of the University of Pennsylvania.

[1] Lloyd, James Hendrie: Insanity, Its Various Forms and Its Medicolegal Aspects, Book II; Wharton and Stillé's Medical Jurisprudence, Vol. 1, Edition 5, 1905

In 1889 a reporter succeeded by simulation in having himself committed to the Philadelphia Hospital for the Insane, where he remained for a few days and then published a story of what he alleged he had seen and heard which produced a transient sensation. He was probably never thoroughly examined by members of the hospital staff, although he was seen by several of them during his brief stay. Some points in the case are worthy of recall, as illustrating the manner in which the intelligent but badly informed simulator overdoes the rôle. No really insane man ever indulged in the entertaining and extravagant performances of this scribe. He was picked up while creating some excitement at one of the Philadelphia street corners. He asserted that he had lived at the bottom of the sea and was 1,000,000 years old, that he had had nothing to eat for ninety years, that he was the last of the actors, that they were all killed by the song-and-dance men—killed with cannon—and the leaves of the trees had turned red with their blood.

"My home," he said, "is in a cave in a mountain on the planet Mars. It was an elephant's nest, but I made friends with him and he brings me food every day. At night I sleep under the sea in a coral grotto, while mermaids sing me soft lullabies that woo the drowsy god." He kept up this farrago or something like it for a day or two; then his identity was disclosed and he was discharged from the hospital.

THE TESTING OF SIMULATION

It is not my purpose in the present article to go at length into the question of the methods of testing simulated insanity. These are given at more or less length in works on insanity and forensic medicine. They include many devices, such as making remarks regarding the patient or his symptoms which are calculated to induce the simulator to assume that which is suggested; suddenly charging feigning and watching the effects; the use of emetics, ether, chloroform, etc. It must be said that all such methods will fail in particular instances, either through foreknowledge of what is likely to be expected or through the natural shrewdness of the individual being investigated. Setting a watch by day and night through an opening in the wall, ceiling, or door is sometimes resorted to, and has occasionally proved efficient in unmasking a feigner. It fails sometimes, one of the reasons being that occasionally unusual powers of endurance and unusual cleverness in keeping up violent and grotesque speech and action are shown by the malingerer. Tests which involve the idea of anesthesia, which the simulator is likely to believe should be present, like the others, may fail, as may also those which involve cruel procedures such as the use of sharp or heated instruments, cold shower-baths, and physical punishment.

After all, the best procedures are those which are founded on scientific principles and the use of the ordinary methods of determining the presence of disease, mental and physical, including the study of the life history of the patient, a comparison of his present with his past behavior, the investigation of the manner in which the supposed insanity has appeared, and the determination of the existence of a type of insanity with more or less elaborate but correlated phenomena. Few simulators, for instance, have the ability to combine in one picture the symptoms of a form of insanity which contains in its ensemble phenomena of exaltation, depression, and suspicion, with certain details well known to be present. The feigning of mania, complete dementia, or stupor is perhaps most frequently attempted, but simulation is often charged in cases of paranoia. Mania or dementia are usually overdone by the simulator, as in the case of the reporter to which reference has been made. The character of the crime which has been committed and the manner of its commission may mean much to a thoroughly informed alienist.

One of the most difficult of problems connected with the question of simulation is that presented by cases of alleged or real insanity, usually forms of paranoia, or alcoholism, which present or appear to present only one or two delusions, such as those of marital infidelity and of poisoning, and yet such cases are among the most important in forensic medicine. In such cases the authentic history of the patient over a considerable period is of special value.

Mistakes are sometimes made by physicians, as well as by laymen, through not properly interpreting phenomena which appear to point to feigning. One of these not often dwelt on is that of supposing that acting, more or less consummate, is a proof of sanity. The putting of "an antic disposition on" is by no means always a proof of feigning. In katatonia, histrionism or theatrical behavior is frequently present. The poses, forced gait and declamatory gestures exhibited by a Chinaman recently tried in Philadelphia apparently did much to prejudice those who examined him, as well as the jury to whom his behavior was described, against the opinion that he was insane, and yet this conduct was one of the real evidences of his mental disorder.

THE DISSIMULATION OF INSANITY BY THE INSANE

The simulation—or, it would perhaps be better to say, the dissimulation or concealment—of insanity by the insane is comparatively frequent. The attempts at concealment are made for a variety of reasons—to escape from institutions by deceiving officials or visitors; to obtain discharge on a writ of habeas corpus; to arouse sympathy; to prevent certification, or the appointment of a committee; or to obtain certificates of sanity to be used as instruments of defense or aggression. Many such cases have come under my observation. In some instances the concealment of insanity has been so successfully practiced as to deceive not only laymen and legal advisers, but honest and capable physicians.

The insane who try to conceal their mental disorder sometimes have advantages over those who, being of a sound mind, simulate insanity. When the former have been inmates of hospitals for the insane, and are intelligent and observant, they have the opportunity not only of studying the phenomena of alienation as exhibited by others, but of learning through the examinations made by physicians what symptoms and signs are regarded as most significant of the presence of insanity. If they have sufficient mental power, profiting by the knowledge thus obtained, they are able (usually only for a time) to conceal the evidence of insanity in their own persons. When not inmates of institutions, they may in some cases, by simply closing their mouths and controlling their conduct, be able to keep in check or out of sight insane manifestations. It requires in some cases unusual skill and patience to elicit the evidence of insanity, and it may indeed be impossible to do this at some particular examination. Perseverance, however, will usually be rewarded by success.

Every neurologist or alienist of considerable practice is now and then asked to give a certificate of sanity, a request which in itself should incline him to be on his guard. In a few instances I have known unwary, although honest, physicians to give such certificates, which they subsequently have had cause to regret.

A woman who made the lives of some of her townsmen, medical and otherwise, and of at least one man of eminence in public life, more or less intolerable by her accusations and undesired attentions came to me from a distant state, as she had gone to others in more states than one, to obtain a certificate that she was sane. She was extremely persistent in her efforts. She was a woman of good presence and some ability, or at least she had superficial acquirements which she used to advantage in the pursuit of her purpose. It was only by a close study of the history of her case and of her statements and personal bearing that a conclusion was reached after several interviews. She undoubtedly belonged to that numerous class included under the broad term of paranoiacs, with delusions both of self-importance and of persecution, the former at the time of my examinations predominating. Her egotism amounted to a megalomania, and close investigation showed that she might become dangerous under provocation or indifference. My refusal, after careful study, to give the certificate desired freed me from her personal visits, but not from her abusive attentions by mail.

In another case—that of a man who had made his escape from an asylum in a neighboring state and was for a time in self-imposed seclusion—refusal after prolonged investigation to come over to the side of the accused again brought on me maledictions. This man had several interesting forensic campaigns in which the question of his sanity or insanity was the chief object of conflict.

A woman 35 or 40 years of age came to my office, accompanied by an intelligent young man who had espoused the cause of her sanity, as appeared later, and requested me to give her a most searching examination and tell her if I could find in her any signs of insanity. She was agreeable in her demeanor and apparently honest in her desire to arrive at the truth. Beginning with her earliest history, so far as could be learned from her statements, and continuing by methods of examination and cross-examination, I tried to penetrate the armor of deception with which she had encompassed herself. It was a long task and not an easy one, but after nearly two hours I determined to my own satisfaction at least that she was not of sound mind, and then learned that she had but recently been allowed to leave a hospital for the insane in which she had been confined for many months. In spite of her skilful resistance a delusional state was uncovered—one which had brought on herself and others much and somewhat serious trouble. Her concealment of her insanity was a more skilful piece of sustained acting than has ever come under my observation in any case of alleged simulation of insanity.

Another case, one of the most positive examples of dangerous paranoia which has come under my observation, was certified by another physician and myself to a hospital for the insane. He had hallucinations of hearing and of sight, delusions of persecution by unseen agencies such as electricity conveyed by wires, and other of the classical phenomena of this form of insanity. He had also well-marked delusions of self-importance, and had had episodes of excitement in which he threatened to kill his wife and others. After his admission to the hospitals he resisted all efforts on the part of the asylum physicians to demonstrate his delusional state. A writ of habeas corpus was asked for, and several eminent alienists and neurologists examined him with negative results. They could not obtain evidence which satisfied them that he was laboring under the delusions and hallucinations which had led my colleague and myself to certify him. The case was heard before one of the most conservative of our Philadelphia judges, and on the testimony produced at the hearing the man was remanded to the hospital for further observation. He still successfully continued his policy of suppression, and was some weeks later brought into court and this time discharged. His later history was interesting and somewhat dramatic. His delusions after he was set at liberty again became apparent. He made many threats and several assaults, and after some difficulty he was again certified and sent to one of the state hospitals, where he still was a short time since, his insanity being almost continuously in evidence. It was only by the most fortunate chance that this man did not kill some of those who were the objects of his insane suspicions.

Paranoia is not the only form of insanity which is occasionally successfully suppressed or abates in such a way as to deceive those usually capable of determining its presence.

A few years since, on the certificate of another physician of Philadelphia and myself, a paretic patient was sent to one of our best known hospitals for the insane. Partly by personal suppression and partly, no doubt, under the influence of conditions which bring about marked remission in symptoms, this man became so quiet and self-controlled as to deceive a physician of some distinction, and also apparently some of the physicians of the hospital, into the belief that he was either not insane or had recovered. He obtained his discharge from the hospital, and immediately went about securing the services of attorneys to bring suit against myself and others for conspiracy in having him placed in the institution. While some attorneys refused, he succeeded in obtaining the services of one or two, and had carried matters so far that suit was about to be entered when his insanity became so apparent, even to those who were helping in his crusade, that all concerned were placed in an unpleasant predicament. Eventually he was returned to the hospital.

SIMULATION IN HOMICIDE CASES IN WHICH THE PLEA OF INSANITY IS OFFERED

In order to recall some facts of value from experience I have collected the data of twenty-four cases in which in trials for homicide the plea of insanity was entered as a defense. In these cases I appeared seventeen times as a witness for the defense; three times as witness for the prosecution; as special adviser three times, and once as arbiter, chosen by agreement of defense, prosecution and the court. By adviser is meant that I was called on to counsel with the attorneys either for the defense or prosecution; for the former in two instances and the latter in one. Simulation was charged or inferred by the prosecution in twelve cases; in two cases the plea of insanity was accepted with little or no contest. It might be said in passing that in both of these instances the accused were women. Ten cases were tried on their general merits with little or no reference to the question of simulation; that is, it was simply held by the prosecution that the accused were not insane, and by the defense that they were.

Recalling these cases after many years, my judgment has but little changed from the time when, full of interest in the details of the investigation and in the events of the trial, I held to my conviction as to the sanity or insanity of those under trial or about to be placed on trial.

In only one case was I impressed with any considerable doubt as to the validity of the insanity plea, and in this case the man himself constantly asserted that he was not insane. It was indeed not held that he was, except at the time of the commission of the crime for which he stood accused, and which was not denied by him or his counsel.

The case was one in which the evidence seemed to point to transient insanity in an epileptic—a most difficult plea to uphold, and yet one than which there is none more likely to be just if the history of the case affords sufficient proof. The man had an attack of spasm apparently with unconsciousness in the court. I was not present at the time and had not the opportunity of studying his condition during the seizure, but a physician of ability, although one not an alienist or neurologist, believed that the attack was genuine. The accused had on his head the scar of an old injury, pressure on which caused pain and brought on a vertiginous state.

Of the seven cases in my list in which there was acquittal on the plea of insanity in only two was there any possibility of simulation, and in both of these cases this might be regarded as doubtful. One of the accused, however, was a highly educated man and had the ability and probably the knowledge of mental disorders necessary to aid him in his purpose if he designed to feign. The other was an ignorant but rather shrewd man, who might have made a rude attempt at simulation. In the first case the evidence as to the existence of melancholia was sufficiently decisive, and in the other acquittal was obtained from the standpoint that the man was suffering from a form of delusional and hallucinatory insanity with amnesia.

As has already been indicated, three of those acquitted were women, and sex probably had as much as anything else to do with the rendering of the verdicts. In two of these acquittal was practically ordered by the judge with the acquiescence of the prosecuting attorneys, and I have no doubt that in both instances the best interests of justice were furthered by the action. In the other case the woman was acquitted in spite of vigorous resistance on the part of the prosecutor. I was not retained as a witness in this trial, but was familiar with the details of the case, and was employed to give an opinion some time after the conclusion of the trial as to whether she should be released from a hospital for the insane to which she had been sent after her acquittal. The cases were fought out mainly on other lines than simulation.

Without doubt the feeling in the minds of judges, juries and the public is against the infliction of capital punishment on women, although at times this feeling is overridden in the interests of justice or for other reasons not always apparent.

In another case after a careful examination of the prisoner and a careful going over of the history of his case and the testimony, I came to the conclusion that the interests of the defense would be best served by not calling on experts, rather trusting to lay and ordinary medical evidence and to the eloquence of the attorneys. The man did not make the slightest attempt at simulation, at least not at the time of my examination. He seemed careless of results and not desirous of being regarded as insane.

In the seventh case the testimony was conflicting, but the accused was sent to an asylum as the result of an agreement to have the case arbitrated by some one who would have no connection with the trial or the investigations leading to it. Feigning, so far as I know, was not attempted.

Several years since with Dr. E. N. Brush, now superintendent of the Sheppard and Enoch Pratt Asylum, at Towson, Maryland, I was employed as a witness in the case of a German who had committed homicide. After this man's execution his brain was secured by Dr. Brush, who made a report, not only on the case in its general features, but on the findings of the necropsy. The brain was extensively diseased. The lateral aspect of the right hemicerebrum showed a marked porencephaly. There was arrested development in the left half of the body, the patient having been asymmetrical from birth. His skull was asymmetrical. He had the history of having a fall, was intemperate, and had had a sunstroke. His knee-jerks were absent, his pupils unequal, and his symptoms and the postmortem findings pointed to general paresis in addition to the congenital or infantile arrest. He was 57 years old at the time of the trial.[2]

It is a matter worthy of passing notice that one of the chief elements which appeared to bring about the conviction of this man was the use which the prosecuting attorney made of the excitement with which the country was then filled about anarchy and anarchists. The trial was held a short time after the Haymarket crime in Chicago, at which time a number of police were killed or wounded as the result of bombs alleged to have been thrown by anarchists, several of whom were afterward tried, convicted and executed for inciting the crime. The prisoner was a German, and this with the homicide itself was sufficient to make him an anarchist and anarchy responsible for his deed.

The only woman whom I remember to have been executed in Philadelphia during my professional life was a weak-minded and probably irresponsible creature, although not in a technical sense insane—not one whom physicians would have been likely to certify to an institution after the usual examinations. This woman had not sufficient mental power to feign with success anything that required the exercise of any considerable degree of intelligence. She poisoned several of her children by administering arsenic to them in their food, this crime seemingly having been done for the purpose of collecting a small insurance on their lives.

An early case in my experience was that of a man who had killed his mother-in-law and wounded his wife. He was supposed to be suffering, among other things, from delusions of marital infidelity. These, as every experienced alienist knows, are among the most dangerous of all delusions. They are sometimes associated with few other evidences of insanity; they occur in cases both of alcoholism and other drug habits and in constitutional paranoia. They are likely to be looked at askance by judges and by the community as represented by juries. One insane in this way is never likely to admit his insanity. Four men out of five appointed by the governor to inquire into the sanity of the accused reported him as insane, but the governor refused to pardon him and he was executed. That simulation was not practiced in this case was my judgment and that of my colleagues, although this may not have been held by others.

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[2] Brush, E. N.: Polyclinic, Philadelphia, vol. 5, 1888.

On Oct. 17, 1887, was begun one of the most interesting trials for homicide in the annals of Philadelphia jurisprudence. Oscar Hugo Webber, on Dec. 6, 1886, without provocation, killed William Martin, a jeweler. Webber, about a week previous to the shooting, had taken a clock to Martin to be repaired. When the work was done he took the clock home, but about a week later brought it back. He and the jeweler had some words, when the former drew a pistol and fired four shots, killing the latter. Webber's father was insane, and one of his sisters was an epileptic. With Dr. James Hendrie Lloyd I examined him for the attorneys who had been appointed by the court to defend him, visiting him five times in all. I became thoroughly convinced of his insanity.

At the trial a considerable number of witnesses, both medical and lay, testified to his delusions and insane acts. One physician, who had known him for ten years and attended him and other members of his family, had some time before the homicide recommended that he be placed in a hospital. The accused believed that his wife was unfaithful to him, and wished to drug him to get him out of the way, and that his children were illegitimate. He also believed that he was the victim of persecution of his friends, relatives and fellow workmen, and even those with whom he came only occasionally in contact. No clearer case of insanity was ever admitted to a hospital for the insane.

No medical evidence was offered in rebuttal, although several lay witnesses testified in rebuttal their belief that he was sane. It is to be inferred that the prison and other physicians who are known to have examined him in prison before the trial, had reported to the district attorney their belief in his insanity. Whatever is the truth regarding this, it remains that they were called neither by the prosecution nor by the defense. Webber was convicted and sentenced to death. Evidently, however, some force was at work which withheld the hand of the law in the final act. He remained in prison until he died, becoming more and more delusional and demented.

Dr. Lloyd[3] has written an interesting article regarding this case.

In this case an effort was made to have proceedings instituted to determine, first, the extent of sanity or insanity of the accused, but it was decided that the trial should go on in the usual manner. As Lloyd remarks, although the law authorizing the procedure would appear to be one adapted to furthering the ends both of mercy and of justice, it is seldom invoked in the defense of those homicides alleged to be insane.

The case was relentlessly pressed to conviction. Simulation was not attempted by the accused. When the man rose to plead, instead of leaving this duty to his counsel, as is usually done, he stammered some incoherent words. When he was ordered to sit down, the judge exclaimed, "We will have no Guiteau business here." On one or two occasions when Webber was examined, efforts were made to get him to give some reason for the killing of Martin, who had not injured him in any way, but the accused said he would tell all about it when he got to court. He seemed to have some insane idea that he would exculpate himself by telling the court why he had done the deed. It is doubtful whether he had sufficient mental power to carry out even the feeblest effort at feigning, if such an idea had ever entered his mind.

A homicide of great interest and one in which simulation was charged was that of Joseph Taylor, who in October, 1884, was convicted of murder in the first degree, he having killed a prison keeper. Taylor was a man of low type, a so-called social Pariah, who had been arrested and convicted of numerous crimes. His brain was an interesting teratologic study, and was one of several criminal brains described by me in the presidential address[4] before the American Neurological Association in 1886. One hemisphere was distinctly different from the other in bulk and height, and the lobes, gyres and fissures presented many fetal and ape-like similarities. It was a low-type, arrested, aberrant human brain in the fullest meaning of these words.

The conclusions reached by the medical investigators and witnesses for the defense was that Taylor was a delusional monomaniac of the so-called criminal or prison type. He was, so we believed, the victim of well-marked delusions of persecution, these being more or less connected or correlated, and having reference to the putting of injurious or poisonous medicines into his food and drink, and to bad treatment from the warden, keepers, doctors and prison officials generally. Numerous other factors entered into the delusional state of the accused, but it is not in the scope of this paper to discuss this or any other case in much detail. The question of simulation was made an important one in the course of this trial. Testimony of the prison physicians was produced which showed that he had told the doctor several times before the trial that there was nothing in the crank business and that he was going to work. On the first day of the trial Taylor had several outbreaks in the court, which impressed some with the idea of feigning, and others that they were somewhat additional evidences of his insanity. Whether Taylor did or did not simulate in prison and in court, there never was any question in my mind as to his insanity. His symptoms were in accord with a certain type of insanity which he had neither the experience nor the mental power to feign successfully. It can not too often be insisted on that a lunatic, like a sane man, may fuss, or feign, or fight, or lie, or, in short, may commit any offense against righteousness or the law. The existence of sanity or insanity must be decided altogether independently of any considerations as to the moral obliquity of the individual, except in so far as this directly elucidates his insanity.

About eleven years ago in one of the interior cities of Pennsylvania a man was tried, convicted and executed for shooting another man who had attempted to enter his house to serve a writ, or in some way to carry out some form of legal process. The man who committed the homicide had barricaded himself, somewhat after the fashion of the sixteenth or the seventeenth century or earlier, as detailed by more than one novelist. This man's family and past history, the extraordinary views which he held as to his rights and wrongs, the manner in which he committed the crime, his conduct before, at the time, and after the killing were among the evidences of his probable insanity. Many things in his history pointed to a long-existent paranoid state with maniacal episodes.

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[3] Lloyd, James Hendrie: The Insanity of Oscar Hugo Webber, Proceedings Med. Jurisprudence Soc. of Philadelphia, Nov. 13, 1888.

[4] Mills, Charles K.: Arrested and Aberrant Development of Fissures and Gyres in the Brains of Paranoiacs, Criminals, Idiots and Negroes: Preliminary Study of a Chinese Brain, Jour. Nerv. and Ment. Dis., 1886, xiii, Nos. 9 and 10.

Feigning was asserted in this case, and there was some evidence to support the idea that the accused had shammed some things during his confinement. Simulation, whether present or not, was not inconsistent with the form of insanity from which he was supposed to be suffering.

Like Taylor, he gave a dramatic exhibition in court which inclined some of those who observed it to the view that it was feigned, and others that it was simply the impulsive act of a man of unbalanced mind under great excitement. While his son, a young boy, was testifying, he suddenly jumped up, and before those about him realized what he was doing ran toward the witness-box, calling out the name of his son. The latter ran as his father approached, and an interesting scene was presented of a chase of a boy by a man and of a man by the officers who soon caught and restrained him. Apparently the incident was not premeditated, but the result of a sudden impulse.

In the case of a Chinaman recently tried in Philadelphia and convicted of murder in the first degree, the question of simulation played a most important part. It was urged by the medical witnesses for the prosecution and combated by those for the defense. As this paper has already too much expanded, and as this case has not yet been heard on appeal, it is perhaps not desirable to discuss it at length. I may take the opportunity at some future time of presenting it more fully. A mere statement, however, of a few of the facts in the case will be of interest in our discussion. The accused was only about 18 or 19 years of age and had shot a man whom he scarcely knew, and with whom he had had no quarrel. In our discussion of simulated insanity the case was especially interesting with regard to the confusion of theatrical behavior with feigning; reference to this point has already been made. The case was also one in which careful investigation indicated that the type of insanity present was such as could not have been successfully feigned by any one who had not a considerable knowledge of psychiatry.

In the examinations made by the witnesses for the defense in this case the prisoner again and again said that he heard voices, that the voices told him to kill the man whom he had shot, or that he would be killed himself. He declared over and over again that the voices told him that he was the greatest of all Chinamen and that he was the prophet of Confucius. These assertions were frequently repeated in a most emphatic and sometimes a dramatic way. He arose from his seat in great excitement on several occasions, declaiming the statements with violent gesticulations.

The accused regarded himself as not only a great man, but also as one who was persecuted; as a sort of martyr and hero. He strutted into the room and around it in an extraordinary manner, with his legs drawn together or partly crossed.

A word or two might be said about those cases in which verdicts of a second degree or of some degree of manslaughter are brought. Such findings are usually in the nature of what might be termed compromised verdicts. Juries which are doubtful as to sanity or insanity, or which desire for other reasons, as because of the so-called unwritten law, bring in such verdicts when often it is quite clear that these should either be one of murder in the first degree or of acquittal on the ground of insanity. In nearly all such cases the plea of insanity is set up because the law does not seem to provide any other.

In one case in which I was a witness many years ago, the jury brought in the ridiculous verdict of involuntary manslaughter in the case of a man who had with premeditation shot and killed another man who had had illicit relations with his wife while he was away from home on business. Although the plea of insanity was entered in this case, nobody in the court room nor in the community seemed to worry much either about the plea or the verdict. The man on trial did not feign insanity, nor was it necessary for him to feign this or anything else.

A second-degree verdict was reached in the case of a man who shot and killed another man whom he believed to be the paramour of his wife, and also shot and wounded his wife. This man did not simulate insanity, but seemed to regard the plea with contempt. Nevertheless, there were facts in the case which pointed decidedly to the view that he had delusions of marital infidelity.

In another case, a young woman who had been for a short time a patient of mine was tried for shooting and killing a man with whom she had become in some way entangled. This young woman, whose people were respectable and honorable, had been a source of great anxiety and distress to her father and the rest of her family from her childhood. She was wayward, seemed to have no moral sense, and committed many outrages against propriety and even decency; she was at times depressed and apathetic and at others irritable and excited. She had not, however, presented signs of insanity which could be readily marshalled in her defense. My counsel, both to her father and to her attorneys, was not to employ experts and so bring on a conflict between the district attorney and those who were employed to defend her, but to endeavor, if possible, to get a second-degree verdict. Whether as a result of this counsel or not, this course was followed, and practically by agreement a second-degree verdict was given and she was sent to prison for many years. In this case there was, so far as I know, not the slightest attempt at feigning, but rather a condition of stolid indifference on the part of the accused.

Recently I was called on by the prosecutor of pleas, with the approval of the judge, in a city not far from my place of residence, to examine with another physician into the mental state of a man who, while in a state of drunkenness or temporary mania or both, had shot his father and mother, one of whom had died. The man had been in prison for several months, was perfectly sane, and in a comparatively good physical condition at the time of examination. His manner was frank, he did not make the slightest effort to simulate insanity, and, as was learned from the prison officials, he had made no such attempt during his incarceration, and had been in every respect a well-behaved prisoner. The only light on which to act in reporting on this, as on some other cases, was that which could be obtained from the life history of the accused man. This pointed clearly to chronic alcoholism of a serious sort. He had begun to use alcoholic beverages when a child, and as years progressed had resorted to them, with increasing frequency, changing from the lighter forms of beverage to those of a stronger kind. He had had episodes or periods of excitement and probably had had hallucinations of sight and hearing at some of these times. These and other facts led my colleague and myself to the opinion that at the time of the motiveless shooting he was probably suffering from temporary mental disorder and was not fully cognizant of the act or of its consquences. A second-degree verdict was given and the man was sent to prison for life. All sensational elements were wisely eliminated from this case by those who conducted it, its management affording a good example of the manner in which such cases should be investigated.

In only five or six of the cases thus hastily analyzed and reviewed in which simulation was alleged or inferred was there in my judgment any evidence supporting this idea. In two of these cases the individuals were really insane, but indulged in violent behavior which may or may not have had an element of shamming in it. In three of the cases the simulation, although suspected, was certainly not demonstrated.

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ABSTRACT OF DISCUSSION

Dr. Alfred Gordon, Philadelphia: I can voice the sentiment and ideas expressed by Dr. Mills in regard to the rarity of the simulation of insanity in hospitals. I was connected as examiner of the insane with the Philadelphia Hospital and detention ward for several years, and out of thousands of cases I never saw a case of simulation of insanity in psychopathic wards. So far as private practice is concerned I have had some experience in courts and in treating patients also. I have come across a certain number of cases in which the diagnosis as to whether insanity was or was not present was in doubt; but these cases are extremely rare. In my opinion, in the majority of instances of true insanity, the diagnosis can be established only after prolonged and repeated examinations. There is no special difficulty even in court cases, in cases of homicide, to establish whether true insanity exists or not. For this, however, frequently repeated examinations are necessary.

There is only one form of mental disturbance in which the alienist or neurologist frequently hesitates, namely, in the amnesias. In a recent case which occurred in Philadelphia a man committed homicide and then attempted to shoot himself; a bullet entered his brain and remained there; and the question of establishing the existence or non-existence of true amnesia was extremely difficult. The patient was able to give an account of everything that occurred up to the moment of the homicide, but he was absolutely incapable, apparently, of remembering anything concerning the homicide or the fact of his shooting himself.

When an *x*-ray picture was shown him demonstrating the presence of the bullet in his head, he wondered; he could not understand how it was possible, he said, that a man could carry a bullet in his brain and be alive; he could not admit it; and the question consequently which came up in court as to whether the man was a true criminal or whether there was a real amnesia present, was an extremely difficult one.

Dr. Mills spoke almost exclusively on the subject of the frequency of the occurrence of simulated insanity; I had hoped to receive from him some suggestion as to what are the true signs by which we can establish the question of the existence of simulation of insanity or not. It is difficult to lay down certain rules which would be a constant guide in determining the question of insanity. But one thing is certain in this class of cases and that is that these patients should be put in the hospital and observed repeatedly and for a long time before a diagnosis is made.

Dr. T. Diller, Pittsburg, Pa.: Dr. Gordon has referred to rules which would enable us to detect the simulation of insanity. I do not suppose any certain rules could be given by any one. I believe that the only way that simulation of insanity can be detected is through our general knowledge of the subject. My experience is entirely in accord with that of Dr. Mills; I have seen but one clear case of simulated insanity. This case, which occurred two or three years ago, was that of a man who was found guilty of murder and had been sentenced to be hanged. No claim of insanity had been put in at the time of the trial and none after the trial until a certain day when the prisoner was supposed to have become insane suddenly; and the insanity was supposed to have come about in this way: He went to bed as usual, having acted in the ordinary way the day before and given no suspicion of insanity. The next morning the keeper went to the cell and found the man mute. He was entirely mute and remained so up until the time Dr. Hutchinson and I examined him two or three weeks later—I don't know just how long. We went into the jail and the man was standing in the middle of the cell with his head moving from side to side and in a rhythmical way, and when the keepers made an attempt to go toward him, as they approached him he would offer to bite them. On being ordered to do certain things he would always do them after he was told three or four times; though he would never do them the first time.

There is a certain something that comes to one in seeing a patient like this that can hardly be conveyed in words, but the whole picture convinced us that the man was simulating. The points were these briefly: mutism occurring suddenly is a great anomaly. I did not know of any insanity of that sort. Mutism occurring with motor agitation was the second suspicious point. The third point was his always doing things, *i. e.*, after he was told three or four times. Fourth, the general dramatic effect of attempting to bite these keepers coming up to him in the way he did; finally, he refused to eat with his hands, but ate his food directly with his mouth out of plates that were brought to him. We were entirely convinced that it was a case of simulated insanity. Physicians in the town were of a different opinion and when they knew of our report they sent in a petition to the Governor protesting; and then they did a thing that I was very glad they did do, a thing that we might have done but did not do—they gave the man ether and when he came out of the ether he talked loud, long and continued to talk so that it made the test absolutely convincing.

I may say in passing, although the point has nothing to do with the scientific side of the question, but to show what troubles we poor neurologists and alienists experience, we sent in a very moderate bill of $100 each for our services, a sum which I am almost ashamed to mention before New York and Philadelphia neurologists, and a great controversy arose between the county and state authorities as to who should pay the bill. The question was debated exhaustively, many letters passed back and forth, and finally I received an opinion from the attorney-general of the state saying that no law covered this subject; that he was extremely sorry but that he would see that a special bill was introduced in the legislature providing for our fees. This was done and just at the time $9,000,000 had been spent for the capitol, and to keep down expenses within proper bounds these fees were cut down to $75 apiece.

Dr. L. L. Uhls, Osawatomie, Kan.: While in general I agree as to the rarity of these cases, yet I am convinced that almost every man of large experience has seen one or more of these cases of simulated insanity. An interesting case came to our institution. A man had been tried for forging checks. It was decided that he was insane and he was sent to us. He came apparently suffering from melancholia with agitation, insisting that some one was going to harm him. I thought recovery was rather suspicious. Within two weeks he told me how much better he was feeling, thanked me for treatment, and said he was sure he was going to get well. At the end of six weeks I notified the sheriff that there was no excuse for holding the man longer. He took him back and he was put on trial. The defense called in five local physicians in the little town, all of whom qualified as "experts," who testified that the defendant was insane. The accused sat in the court room during the trial apparently in a great state of excitement, and kept crying out, "I know what you are going to do, I know you are going to kill me!" I was asked to appear as an expert in that case and I stated that I believed he was a criminal, that he understood that he had committed a crime and was trying to so conduct himself as to be acquitted of that crime on the grounds of mental derangement; that I believed he ought to go to the penitentiary and not back to the hospital. The jury decided that the man was insane and he was ordered back to the insane hospital. But he hated that so badly that he took French leave, disappeared, and has never been heard of since.

Warden McClaughry of the Federal penitentiary at Leavenworth had a prisoner who, he thought, was simulating insanity. He called in an expert. They did everything they could to find out the true condition. The man was accused of a serious crime and the warden decided that he was simulating. But the man was so clever that his actions indicated that he was insane. He would eat his own feces and drink his own urine day after day and week after week, and do many other things as remarkable as that. Finally the expert made the suggestion that the case should be discussed in the presence of the prisoner and this was done. The expert said "this man is in a serious condition, and I know of nothing that will do any good except to open up the head and examine the brain; it will probably kill him, but he is a goner if we don't do it, and there is about one chance in 700 if we operate on his head that he may live." They began to prepare the patient for operation, when he gave up, and he said: "Hold on, gentlemen, I have been making this up. No surgery for me!"

Dr. Pearce Bailey, New York: The question of the correlation of the crime with the supposed mental state has not been touched on. Crimes committed by the paranoiac are characterized by cunning, while those committed by epileptics are characterized by brutality, with multiplicity of blows and mutilation of the victim; and the man who does the deed ordinarily makes no effort to escape. In like manner, the crime of the alcoholic is often committed with any instrument that happens to be handy. And the failure of correspondence between the character of the crime and the feigned mental condition would excite suspicion as to the genuineness of the mental symptoms. In New York the majority of criminal cases with mental symptoms are quickly disposed of by a commission and the individuals do not appear for trial at all; they are sent without trial to one of the institutions for insane criminals.

Consideration of the motive is important from a legal point of view. There was tried in New Jersey a number of years ago a man named Wood, who without any motive that could be demonstrated, killed an old farmer with whom he was driving in the country. The murderer told a remarkable story to the effect that he had no recollection of ever having seen the man, much less killing him, and had no recollection of where he was during that time. The diagnosis lay between psychic epilepsy and shamming. There were no evidences of insanity so the lack of motive brought a compromise verdict, the man being sentenced for life. Since he has been in prison he has given no evidences of insanity.

This whole question should be discussed from the point of view of limited responsibility. It is rarely possible for a conscientious alienist to say in so important a question as this that a man is absolutely feigning; most criminals are defective. The decision as to how far their defects affect their responsibility is one that generally has to be decided by a compromise verdict.

Dr. F. W. Langdon, Cincinnati: It may be of interest to add to the cases reported four cases that I recall. In two the patient was charged with murder. In one, the man, who was a foreigner, an Italian, claimed he could speak no English. He had been arrested on a country road a mile or two from the place where a burglary had been committed; lying apparently sound asleep with the loot lying around him, under a tree. On being brought into court he exhibited exaggerated actions and much volubility. His lawyer was anxious for me to declare him insane, but I remanded him for further observations, which proved that the man was shamming; whereon he was indicted and convicted.

In the second case a man was trying to escape the consequences of a misdemeanor by feigning insanity. The examiner cunningly remarked in a subdued but audible tone of voice to a bystander: "That fellow does not look crazy. They usually roll their eyes around more and move their hands and feet, and do not sit so still as this fellow does." Acting on the suggestion almost immediately, the man began to roll his eyes and move his feet. This man's shamming was readily revealed.

Two individuals charged with homicide and feigning insanity, were of considerable interest. One was a clerical gentleman, who, it was alleged, had murdered a young girl. While in the general hospital he certainly simulated primary dementia very well; so cleverly was it done that for a long time there was doubt as to the diagnosis. Privately, I was inclined to think he was malingering, for he overdid his part sometimes; but when the alienist for the defense testified in court that the prisoner had dementia; and when the alienist called for the prosecution testified that the prisoner had been simulating when he first examined him some months before, but he believed that "prolonged simulation had carried him over the line of sanity into dementia," he was found insane, committed to a state asylum where he remained a year or two, making altogether too much improvement as I thought, until one day he escaped and was never heard of again. The presumption, therefore, is that he was feigning, and I must confess that he was a good actor.

The fourth case was that of a man who walked into a jail with a shotgun, stuck it between the bars and emptied the contents into a prisoner. I was called by the prosecution to answer a hypothetical question as to his sanity. This man ran out, warned everybody to be careful, and acted in an agitated manner, tore his hair, but he never failed to eat, sleep, etc. My testimony was that the evidence did not show insanity. He was convicted of murder and sentenced to a long term, but I heard recently that he was pardoned within a short time.

Dr. George A. Moleen, Denver: This subject strikes this Section as a discussion on appendicitis used to strike the Section on Surgery. No question is more interesting to the majority of us. Recently in Denver we have had a little festival of crime, and this has given rise to a wave of insanity which has had its immediate starting point with the crime. The title of the address as given in the program raised a doubt in my mind as to whether it was the successful simulation of insanity or attempt at simulation which was meant.

There is no doubt but that in a number of cases which we have had in Denver recently the accused have attempted simulation. One of these which I had occasion to observe on several occasions before the court, was a woman of 54, who had been perfectly well previously and who took particular pains to secure her re-election as treasurer and custodian of a fund known as the Children's Hospital Fund, which was inaugurated by a local newspaper. About the time the monies were to be utilized she had misplaced the funds and they could not be found, and the theft amounted to something like $3,000. She was accused of embezzlement, but immediately took sick and became mentally broken. I examined her at her own house where it had been reported that she was unable to be seen, and that she was unable to appear in court. I went out unknown to examine her and while she was stated to be in bed and not to have partaken of any nourishment for some time, I found her fully dressed, even including her shoes, stockings and underclothes, and well-nourished. When I entered the room she was perfectly quiet, exhibited no nervousness, no trembling, no fear, and very little anxiety. However, within a few minutes after my mission was stated she became violent, screaming that I was sent there as one of her persecutors and that I intended to kill her. My associate was asked if he was going to kill her; and other points were brought out such as delusion that some lady had come up there and cut her throat, and that her fingers were dripping with blood, and that as a result she would be forced to wear gloves for the rest of her life. She stated that she was in the hospital and would soon get well; that she did not know where she was; and with other evidences of confusion she said that she was born in 1867 and that she was 67 years old, and a great many other points that she gave me as an evidence of dementia or rather amnesia. In the court room an interesting point was brought out: she was placed on the stand and in reply to questions where she was stated that she was in the hospital. The prosecuting attorney asked her if she had any recollection of the monies. She said "Monies, monies, I don't know any monies," and reached into her pocket and handed him a small purse. She was then removed from the stand by her attorney, a large attorney weighing about 200 pounds, and her husband, who firmly grasped her under the arm pits and led her to a chair in front of the dock. She then began to tremble all over and hurled herself down and succeeded in getting to the floor. Of course there was considerable uproar in the court and every one said she had fainted and that the doctor should be called. But her face was quite florid owing to the muscular exertion necessary to enable her to get away from these two stout men.

The points briefly in this case were of those 57 different varieties, so to say, and I do not believe could have existed in true insanity, and her actions were attributable to a desire to deceive the court and impress the jury at the time of the trial.

Dr. Charles K. Mills, Philadelphia: In the brief time at my disposal of course it was impossible for me to discuss the methods of unmasking simulation; but these methods have been well presented in the course of this discussion. I still hold to my original statement that simulated insanity is rare. It certainly is, in private and hospital practice. I have not had a large experience in prisons, and none in criminal lunatic hospitals like the one at Auburn.

The conclusion at which I arrived regarding insanity in prisons was that there were many more cases of insanity in prisons which were not regarded as cases of insanity than there were individuals simulating insanity. With regard to the cases reported in the discussion as instances of simulated insanity there might have been some little difference of opinion as to one or two of them at least. I do not believe, on the whole, that the plea of insanity in homicide cases is so frequently abused as it is supposed to be, if the cases in which the so-called unwritten law comes into play be omitted from the calculations, and perhaps some cases of alleged alcoholic insanity. Probably more individuals are executed who are insane than are saved from execution by the plea of insanity.

ABSTRACT OF DISCUSSION ON THE PAPER OF DR. ALBERT H. MILLER

[DR. MILLER'S PAPER BEGINS ON PAGE 1353 OF THIS ISSUE]

Dr. J. A. Stucky, Lexington: Any method which simplifies anesthesia diminishes the quantity of the drug used and the dangers that attend its administration is to be hailed as a great advance. I have contended, and still do contend, that the patient should be practically from under the influence of the anesthesia by the time the operation is finished to insure rapid recovery. This can be facilitated by the administration of a small dose of morphin hypodermically—⅛ to ¼ gr. with from 1/150 to 1/200 gr. atropin. I rarely give more than 1/6 gr. of morphin. I am glad Dr. Miller used the term "charging the patient with ether;" I have used the word "soaking." Charging the patient with any anesthetic is dangerous. Chloroform is a dangerous anesthetic in any adenoid or tonsil operation, and especially when there is a tendency to the status lymphaticus. I believe the ideal method has not yet been devised, unless this method suggested by Dr. Miller proves so to be. Rectal anesthesia, as advocated by Cunningham, has its advantages. I have used it only eight or ten times and have not had the opportunity to develop the idea as it has been carried out elsewhere. In some places the technic has been very much improved, and I believe that by this time next year we will probably hear some results with rectal anesthesia that will startle us. This method is nearer the ideal method because the anesthetist and anesthetic are nowhere near the field of operation. It appeals strongly to me. For several years I have used with satisfaction vaporized ether through a long rubber tube attached to the ether bottle and worked with an ordinary atomizer bulb. Another method which I saw used in London a year ago is a modification of the method shown by Dr. Miller in which the metal ether tube is incorporated in the mouth gag. I have used that with gratifying results. I have used the nasal tube once and do not think I shall ever use it again.

Dr. J. O. Roe, Rochester: The point regarding the warming of the anesthetic is a good one. I invariably warm it and find that I can get better results with about one-half the amount of ether or chloroform than when they are used cold. The anesthesia is quicker and it is not necessary for it to be so profound, nor for the patient to be so thoroughly saturated with the anesthetic. The dangers of anesthesia and particularly of chloroform, in the operation for adenoids and enlarged tonsils, are due to the greater readiness with which respiration is cut off when these obstructions are present. This is the reason why death sometimes occurs and is not, unless in rare instances, due to the condition called lymphatism. In these cases the child is unable to breathe through the nose, so that when the anesthesia becomes so profound as to abolish the reflexes, the tongue drops back over the larynx and the child is unable to breathe. In administering an anesthetic in these cases, it is, therefore, of the utmost importance to open the mouth widely, to pull the tongue firmly forward, and to raise the angle of the jaw. By thus keeping the breath way free and not carrying the anesthetic so far as to abolish all reflexes, as is so often done, we eliminate the dangers of anesthesia in these cases.

Dr. C. F. Welty, San Francisco: Prior to a year ago I used the nasal tube exclusively. A tube devised by Rupert I have used for the past year and find it the most satisfactory that I have tried. I think this new apparatus is a further improvement on that because of the fact that one gets the vapor directly into the tube, which will concentrate the amount of anesthetic given. I begin my anesthesias with nitrous oxid, and after the patients are completely under I change to the warmed ether. It is better to have it warmed because the ether is taken up more rapidly. This new apparatus seems to be the most improved thing on the market to-day. The greatest difficulty in doing tonsil operations under general anesthesia is to keep the patient breathing properly at all times. I have used a tongue depressor and at the same time pulled the tongue forward which, seems to facilitate matters.

Dr. Sylvan Rosenheim, Baltimore: It seems to me that what we need at the present time is not so much the apparatus as the man behind the apparatus. We need professional anesthetists, such as they have abroad. At every hospital there should be a professional anesthetist; it is especially important in this line of work. Recently at one of the hospitals with which I am connected there have been two deaths, each undoubtedly due to the anesthetic. The operation was done skilfully in each case but the patients ceased to breathe. In neither of these cases was an autopsy obtained. An injection of adrenalin chlorid, a small amount, had been used, and in view of the case which Dr. Harris recently reported in which death occurred after the injection of adrenalin for removal of the tonsils, it might be just possible that that may have had something to do with these fatalities. Ether was the anesthetic employed in both cases.

Dr. M. P. Rupert, Philadelphia: I have been very much interested in Dr. Miller's apparatus which is probably an improvement on mine. I don't quite see, however, why Dr. Miller doesn't find the heated vapor more advantageous, because I think one can carry on a more even anesthesia with less ether and less after-irritation with the warmed vapor. My experience has been that there is less mucus secreted with the warmed vapor than with the cold.

Dr. J. A. White, Richmond, Va.: I have always had difficulty in keeping such patients properly anesthetized so that I made an apparatus very similar to this but cruder. Some time ago, however, I began to resort to rectal anesthesia in long operations about the face or throat, and do not expect to go back to any other method in such cases because in my hands it has proved so satisfactory. I have never encountered any objection on the part of a patient because, as a rule, my patients never know I use it. I prepare them by giving a purgative early on the day before the operation, followed by an enema the same night and another the next morning. I anesthetize them in the usual manner by inhalation and continue the anesthetic by the rectum. Of course, the patient being under the influence of the anesthetic has no idea how it is kept up afterward. Any one who tries the method will not go back to the other way. One does not have to stop at any time; however, I have always had a professional anesthetist give my anesthetics for me.

DR. B. R. SHURLY, Detroit: Rectal anesthesia requires, first of all, an expert anesthetist who has been trained in that particular manner of giving anesthetics, and unless the vapor is properly passed into the rectum there is considerable danger of burning the mucous membrane and causing a serious and deplorable state of affairs. With an expert this method has been successful in the hands of a few.

DR. A. H. MILLER, Providence: I have investigated the question of warmed ether thoroughly and have not been able to find any apparatus that properly furnishes a warmed vapor. The different forms of apparatus are for the purpose of vaporizing the ether, but the vapor is practically all at the same temperature. With this apparatus, after passing the ether through five feet of rubber tubing at the room temperature, it is practically the same temperature as is produced by applying heat. The advantages of the apparatus are, of course, the possibility of giving a large quantity of ether and having perfect control of the anesthesia at all time. The advantages of the gag are that it is not in the way of the operator and that it does not become dislodged. I have used it over a thousand times and it has never yet been dislodged.

FINAL RESULTS IN CONSERVATIVE SURGERY ON THE OVARIES*

JOHN OSBORN POLAK, M.Sc., M.D.
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The meagerness of the literature on conservative surgery on the ovaries, when these organs are the seat of neoplastic formations, has prompted me to analyze the cases in which I have performed operations in the last nine years, and of which detailed records, noting the pelvic conditions and symptoms at the end of one and two years, have been kept.

Do the remote results of conservative surgery on a diseased ovary warrant us in resecting such an organ? This is the question which the surgeon must answer daily, at the operating table. On the one hand, ablation in a young woman has many unfortunate physical and psychical results; while the preservation of a part of one or both ovaries renders the symptomatic cure of the patient uncertain, and a secondary operation may be necessary.

The reasons which have been advanced in favor of conservatism are, first, the preservation of the ovarian function (i. e., that of ovulation and possible pregnancy, and the retention and maintenance within the body of the ovarian secretion); second, the avoidance of the artificially produced menopause, with its troublesome nervous phenomena. Many patients, for sentimental reasons, refuse operative relief, because an oöphorectomy must be done to get it.

Are the first two reasons of sufficient importance to compensate the woman for the frequent recurrence of her pain, and the ever-present possibility of further cystic changes, and the necessity of subsequent operation? In 1903 the late Palmer Dudley presented a paper before this Section, based on a study of 269 cases of his own (in which the left ovary had been resected in 130 cases, while the right had required resection in 141), together with the 2,212 cases of other operators, reported to him in personal communications.

In this paper he concludes that conservatism is justifiable, because it maintains and retains the menstrual function. No mention, however, is made of the exact pathologic condition of the ovary which required the resection. Neither is there any mention of the final results of the operation.

In a study of 1,970 cases of resected ovaries, abstracted from the literature, I find records of but thirty-two known pregnancies. Hyde, in concluding his admirable and scholarly paper on this subject, says: "Pregnancy does not occur as often as thought; in fact, it occurs in not more than 5 per cent. of the patients operated on in this way." Again, all resected ovaries present the possibility of a recurrence. Hyde's incomplete records show that about 5 per cent. of the patients return for subsequent operation. The avoidance of the artificially produced menopause is the only result that resection can absolutely promise. Some years ago, in a paper read before the Brooklyn Gynecological Society, in which I reported 161 conservative operations, I called attention to the disappointing symptomatic results of ovarian resection, and I believed then, as I do now, that the field of ovarian resection is a very limited one. There are ideal and selected cases, in which conservatism may be practiced.

A study of the records of 300 cases, occurring in my personal service, in which resection was done, with the large number of secondary operations necessitated, has afforded me a wider insight into the pathologic conditions which follow on resection, and thus permits me to make some practical deductions. This series shows that forty-one patients have returned for further operation; or over 12 per cent. of the entire number operated on by conservative methods since 1901 have required ablation of the remaining ovary, or the part of the resected ovary left at the primary operation.

Twenty-six pregnancies have occurred in the 240 women who could have become pregnant, or in over 10 per cent. of the women operated on, which is a higher percentage of pregnancies than generally reported. One patient contributed three full-term pregnancies and two abortions to this list.

This fertile patient, though included in a previous paper read before the Brooklyn Gynecological Society six years ago, is entitled to further mention, as she exemplifies a type in which conservatism may be used with some certainty of success. I refer to the ovary which is the seat of a monolocular-cyst. This patient was 18 years of age at the time of her primary operation, and had suffered since puberty from premenstrual and menstrual dysmenorrhea. Both ovaries were cystic and prolapsed; the left, on section, showed numberless small cysts throughout, and was removed. The right contained one large cyst the size of a lemon, destroying the entire cortex. This was resected by a wedge-shaped excision, leaving only a fringe of the hilum, .5 cm. wide and 2 cm. long. Both tubes were left undisturbed. This patient has been attended by me in all her pregnancies. She has menstruated regularly and, while there is no enlargement of this remnant of ovary, it is tender and causes some premenstrual pain at this period. During the past year the catamenial flow has become scantier, and the patient is beginning to complain of the nervous phenomena which suggests an approaching menopause.

In all the patients (except the forty-one returning for reoperation) an early operative menopause has been averted, and 106, or more than one-third of the total number, are free from pelvic pain of any kind, menstrual or intermenstrual. These patients have been carefully examined repeatedly, and their pelvic findings recorded. In twelve of this number the "treated" ovary is larger than one would suppose it should be, but has occasioned no contiguous inflammation and has produced no symptoms.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

In eighty-one women both ovaries were resected by the excision of a wedge-shaped piece of ovarian tissue, which included the diseased structures. The ovarian wound was then closed with a fine catgut suture, great care being taken to have all hemorrhage controlled and dead space obliterated, with just sufficient tension to obtain coaptation without constriction, which I believe to be the cause of many failures. This was illustrated at the secondary operation in two instances, which will be cited later.

In 219 of the women making the basis of this report one ovary was entirely removed and the other resected after the method described above. It is interesting to note that seventeen of the twenty-six pregnancies recorded followed ablation of one ovary, while the ovary producing the fertile ovum had been extensively resected. Further, so far as my pathologic records can be followed, but two patients who were fortunate enough to become pregnant presented microcystic ovaries at the time of operation. This bears out a contention which I have made on previous occasions, and concurs with Hyde's views, i. e., that a microcystic ovary, sufficiently diseased to cause pain or invalidism, is better removed, as conservatism in this class, as Gordon wisely states, consists in "conserving the woman's health, not in preserving a diseased organ."

The results of attempting to preserve a diseased ovary when it is the seat of multiple microcystic degeneration are illustrated by the following case, which may well stand for a type:

A. H., aged 23, admitted to my service in the Jewish Hospital, married, sterile, had always suffered from severe premenstrual dysmenorrhea, which had become worse since her marriage. She also complained of a profuse mucopurulent leucorrhea. The smear from the cervix showed gonococci. A median abdominal incision disclosed a double hydrosalpinx, with a cyst of the left ovary totally destroying the organ. Both tubes and the left ovary were removed. The right ovary presented a multiple cystic degeneration, the cysts varying in size from that of a pea to that of a bantam's egg. The cystic portion was freely excised, leaving only a narrow strip of the ovarian hilum, apparently free from any cysts. Postoperative recovery was uncomplicated: On examination one year later, the patient stated tnat her menses had recurred regularly, lasting two days, but of small quantity, preceded by severe pain in the right side and swelling of the breasts for two weeks before each period, and that all marital relations had occasioned severe pain. On bimanual examination, the uterus was found in normal position, with its mobility limited on the right side and posteriorly. The right ovary was the size of an orange, painful and adherent.

Of the forty-one patients who have returned for further surgery on their adnexa, all but three present similar histories and findings. All resected ovaries swell and become markedly enlarged during the first month after operation, but this swelling gradually subsides under the influence of time, rest, and the establishment of an equalized circulation. This latter can be obtained only by careful suturing of the ovarian wound without constricting it, and by placing the resected ovary high in the pelvis, in order that the return circulation may be favored, and further, that it may be free from peritoneal contact until such time as its wound is closed over, for peritoneal adhesions make painful ovaries.

If the return circulation is impeded by the misplacement of sutures, the cystic formation is very rapid and extensive, as was instanced in two of my reoperations, which were done within two weeks of the primary section, and in which the remaining ovary was found in the cul-de-sac, markedly cystic and adherent.

The primary section in one case had been made by one of my assistants. Both tubes had been removed by a running suture along the top of the broad ligament, and the right ovary resected by a wedge excision of several cysts. The bleeding was troublesome, and in attempting to control it the circulation was interfered with by the too frequent insertion and too tight application of sutures. The ovarian engorgement was further increased by the omission on the part of the operator to suspend the uterus in order to keep the resected ovary high in the pelvis. Too much can not be said on this point; the ablation of the tubes, with or without the removal of the ovary, will always shorten the broad ligaments, and so pull the uterus out of and back of its normal position; or when one ovary and tube are removed, the uterus will be drawn backward and to one side, unless counterbalanced by some procedure which will hold the uterus in place.

On examination of these patients before dismissal from the hospital I noted the uterus displaced backward and to the right, and a large cystic mass the size of an orange in the right posterior cul-de-sac. On reopening the abdomen, it was seen that the sigmoid had become adherent to the anterior face of the fundus, and that the uterus was retroverted over a large cyst of the right ovary, densely adherent by fresh adhesions in the cul-de-sac. The size of the cyst surprised me.

The findings in the second patient were almost identical with those just described; the adhesions were freed and the ovary removed. Before closing the abdomen the uterus was suspended; the subsequent recoveries were uneventful. I am convinced, from my secondary operation findings, that many recurrences of cysts or of pain about the tumor (or on the other side after one ovary has been ablated) are due to omission to secure the resected ovary high enough in the pelvis to maintain an equalized blood supply, and to failure to keep the wound surface free from omental parietal and intestinal adhesions, which may be accomplished if the uterus is raised by some of the many retroversion operations. Even when a uterus is in normal position before operation, removal of part of the adnexa will shorten the broad ligaments, and will retrovert it to some degree, enough to start the vicious cycle. Both tubes were removed in sixty cases in the course of this series. When a double salpingectomy is made, it is my custom to suspend the uterus, no matter what its previous position may have been. This step, I believe, does two things: it minimizes the adhesions of the omentum and the intestines to the stump, by encouraging adhesion to the parietal peritoneum; and it maintains the ovary in a better position for its circulation.

All of these operations were in child-bearing women. In 119, but one tube was ablated; and both tubes were left undisturbed in 121, leaving 140 women in whom future pregnancy was a possibility. The tubes were ablated; the uterine portion of the tube was excised by an elliptic incision about the tube into the cornua, exsecting most of the intramuscular portion; and the free portion was cut away. The muscular gap thus produced was closed with interrupted catgut sutures, and hemorrhage from the ligament controlled with a running suture along the top of the broad ligament, which technic, I believe, helps to retain the length of the broad ligament.

Notwithstanding this careful technic, one patient became pregnant in the cornua of the uterus, and developed an interstitial pregnancy, which has been reported elsewhere. This case has not been included in the report of the pregnancies following on resection of the ovary, as it occurred in one of the sixty patients in whom both tubes had been excised.

No attempt was made to preserve any portion of a diseased tube by resection or the phimosis operation. When a tube was found diseased it was removed, as my former experience with conservative procedures on the tubes has been most disappointing.

A study of the class of ovaries resected will perhaps lead to conclusions of value. In 163 cases pathologists' reports are noted. Of this number, ten patients had simple retention cysts, due to thickening of the wall of the capsule, resulting from long prolapse of the ovary. Of these, three were treated by simple puncture with the cautery, with the following end-results: One is cured of all pelvic trouble. Two have tender and enlarged ovaries, though one of these women has been pregnant. In the remaining seven cases, the ovaries were resected and the patients made perfect recoveries. Six patients had dermoids; the tumor was excised, and the remaining stump of the hilum preserved by careful suturing. One of these women has returned for reoperation for a unilocular cyst, developing from the retained fragment.

In case of papilloma, unrecognized clinically at the time of operation two years ago, a papilloma of the resected ovary subsequently developed, with papillomatous peritonitis-ascites and hydrothorax. The patient was operated on again and has made a good primary recovery. Seven large multilocular cysts, varying in size from that of an orange to that of a child's head have been enucleated from their laminated walls, which were trimmed down and sewed over, leaving a resected portion of an ovary 3 to 4 cm. long and 1 cm. wide. No recurrence has taken place; the ovary has atrophied, menstruation has continued normally, and one pregnancy has resulted.

Forty-seven patients had cysts of the corpora lutea, which had increased the weight of the ovary sufficiently to make it prolapse and to cause menstrual and intermenstrual symptoms; in all cases the ovaries were deeply resected by wedge-shaped excisions. Thirty-six patients are free from pain and menstruate regularly and painlessly. Four have required further surgery; two have a small, cirrhotic and painful ovary as a result. Five complain of menstrual pain without any physical change in the organ.

Two primary fibromata of the ovary were enucleated from their capsules, the excess of which was cut away and sutured, so as to make a small mass of ovarian tissue. Both the patients have been lost track of. In the remaining ninety cases the diseased structures belong to the class of multiple cystic ovaries, presenting numberless small cysts throughout the ovarian structure. In fifty-five of these cases one ovary was ablated, leaving one good ovary, while thirty-five were resected.

The extent of the involvement in each ovary was determined at operation by an incision through the organ from cortex to hilum, laying it open for inspection; the entire cystic portion was excised, and the remaining fragment carefully sutured with fine catgut. But five complete cures are recorded, twenty-one patients have returned for further surgery. Nine menstruate regularly, though the quantity has become scantier each year, and each period is attended with some degree of menstrual pain.

Two pregnancies followed resection in this class. It would seem, therefore, that multiple cystic degeneration was least favorable to conservative procedures, while ovaries containing retention cysts, cysts of the corpora lutea, large monolocular cysts, fibroids and dermoids, may be conserved by resection, with considerable hope for the patients' continued well-being.

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ABSTRACT OF DISCUSSION

Dr. John G. Clark, Philadelphia: Several years ago, when the question of conservatism came prominently into the foreground, many of us felt extremely enthusiastic as to the outlook. We had all seen the disastrous effects of a surgical menopause on very young women, and yet ovariotomy was the common procedure in those patients suffering with suppurative conditions incident to the gonococci which commonly attack younger individuals. In some of these the surgical menopause was so infinitely worse, so far as its effect on the individual, than the original disease, that the second condition was far worse than the first. We looked, therefore, with happy anticipation to the elimination of the infection through salpingectomy and the conservation of the ovaries. Unfortunately, our hopes were not realized, for an operation in the midst of an acute gonorrheal infection is usually followed by most disagreeable sequelæ, such as progressive suppuration and, ultimately, a second operation or very serious invalidism. I have therefore been forced to the conclusion, as the result of practical observation of a large series of cases, that an operation in the midst of an acute inflammatory disease is more likely to be successful, so far as actual relief of symptoms is concerned, if radical rather than conservative. However, we have recently had brought before us, particularly by Simpson and others, the value of withholding operation until the acute process has passed and merely the pathologic débris remains. This recalls the classic observations of Saenger, than whom there was no greater or more acute observer, with reference to the residuum of disease. He particularly laid stress on the fact that the so-called chronic adherent ovaries and tubes were not the seat of infection, but were merely the derelicts of the gonococcal storm. In some instances, the destruction has been so extensive that nothing less than a radical operation will suffice; in others conservatism may play a splendid rôle. Conservatism as I view it at present, therefore, does not relate so much to the operation as it does to the time for the election of the operation. In all acute inflammatory conditions, unless symptoms are most threatening, I withhold operation until the acute inflammatory process has passed, and the patient is largely free from pelvic symptoms. Then one may perform the abdominal operation with the view to removing the residium of the inflammatory attack, leaving behind all structures which having been involved are now well, or which have not been invaded by the attack. In this way I have secured results which are infinitely better than those which followed operation in the midst of acute infection.

Dr. Polak has, I believe, put before us another phase of this question, namely, that pregnancy, which was formerly a chief mainspring in considering conservatism, need no longer be considered, for the majority of women who have suffered from inflammatory diseases had been and will still remain sterile. The conservation of ovarian tissue is done with the sole purpose of perpetuating menstruation and preserving that occult influence which is ascribed to the ovarian secretion. This is of the greatest value, not only from merely the sentimental, but also from the physiologic standpoint. Every woman under these conditions may hope for maternity, whereas with the complete cessation of the period this hope is lost and she is very likely to become morbidly introspective and chronically neurotic.

Dr. Howard A. Kelly, Baltimore: This subject has been a burning question with us for many years, and it is interesting to note how our attitude relative to a particular question will change in the course of years. By conservatism now we mean diseased ovaries, and yet I doubt a little whether Dr. Polak does not include cases which we do not consider diseased at all; those cases of small cystic formation. My experience in the past twenty years has been that conservatism has a more and more limited field. We all went at it as Dr. Clark has said with a great deal of enthusiasm when it came to us like a new idea that we might save some of those structures which our predecessors were sacrificing. There is an age limit in conservatism, and there must also be considered race and condition. There is the working-woman who insists above all things that she must be well. Speaking of conservatism in a broad general sense, I believe it will depend on the condition of the surrounding structures and on the previous history of the patient. If there is history of long-continued suffering and of invalidism for years, I am more apt to be radical there than to conserve. It depends, too, on the point of view of the patient. I am willing to be conservative if the patient will take the brunt of what will come in the way of relapse. As a matter of fact, I find the patient leaves the decision to me. If the patient says: "I want above all things menstrual function and the chance of conception," then I do everything I can, putting the burden in the way of relapse on the patient.

In regard to the Graafian follicles, unless there is very decidedly clear ovarian tissue, it is a mistake to leave a mere shell of an ovary. Unless the patient insists I would hardly recommend leaving structures which were under suspicion on the opposite side having malignant disease on the other. After removing a dermoid cyst from one side I have split the other ovary and taken out one or two dermoid cysts. I believe we ought always to do that if the opposite ovary is enlarged. What shall we do in pelvic inflammatory disease? In many of these cases an ovary is held down under a web of adhesions and is in bad company. The tube is pouring out its infection and if we take out the tube, with that the disease, and free the ovary from its adhesions, I think we can safely be conservative. But, when the ovary has been bound down under old adhesions, I think it ought to be cleared out. When the ovary is retained my plan is to have it held up from the pelvic floor.

Dr. A. Goldspohn, Chicago: This subject has been a favorite one with me for many years; and if I am not mistaken, I was the first to publish anything about resection of ovaries west of the City of New York. I have often been attacked in my position; sometimes by men who were serious, but oftener by theoretical quibblers. Those who were serious from practical experience I respect, but the others scarcely deserve any notice. Nagel of Berlin once made series of sections of ovaries and declared that these follicle cysts as a rule contain ovules, that therefore they are all healthy, and that resection of ovaries is uncalled for. This astonishing declaration aroused numerous other equally qualified men to investigate the subject by even more extensive examination of series sections of such follicle cysts; and they all disagreed with Nagel's declaration, saying that the ovules were not present usually, in a normal condition, and that the pathologic nature of the follicles is established both histologically and clinically. Nagel never appeared in defense of his position.

This subject requires the best of our gynecologic acumen. We gain in judgment by experience, and in my opinion it is the supremest test of an operator's judgment to tell chiefly by palpation what is healthy ovary tissue, or how diseased it is, what may we risk leaving and what we ought to remove. It is not the size of these bodies that determines or indicates their health; it is consistence more than anything else. Furthermore, I am guided in this matter by considering the natural destiny of Graafian follicles, namely, to come to the surface and rupture. Normally they do this before they become enlarged to the size of a hazel or hickory nut, as we often see them. If they do become so enlarged, there is something pathologic which has either prevented their rupture, or has caused their overgrowth or hydropic condition; and whether we need to meddle with them or not, will depend partly on the size of these cysts, and more on the thickness and density of the structures overlying them and interfering with the rupture, which is needed to relieve the painful tension in the organ. Again, there are gnarly cirrhotic parts of ovaries, in which all glandular structures are gone, but nerve endings remain in continuous compression, causing much pain, not merely local, but often referred to other organs in the same part of the body, that need to be removed. Of course, such surgery, and in fact all surgery on these parts, is out of order when the tissues are in a state of acute inflammation. That must have subsided. Then only can we tell what really needs to be removed. And, as the opposite policy is correct, with reference to the appendix, appendicitis in women should be cared for by the gynecologist, because he is most likely to make the important differential diagnosis correctly.

Dr. R. Hall, Cincinnati: I think Dr. Kelly emphasized the real points in saying that it is not conservatism if experience demonstrates that in retaining the ovary the gynecologist does not cure his patients. If one removes an ovary and the ovary on the opposite side has a large cyst, possibly the size of an orange, that ovary should be resected and the patient left a portion of the organ. I have to my credit three or four patients, like the one mentioned here, who have borne children afterward. One patient whom I mentioned once before in this Section was over 40 years of age, the mother of one child. Ten years previously a tumor weighing 30 or 40 pounds and a cyst larger than a large orange were removed, leaving about half of an apparently healthy ovary. In eighteen or twenty months afterward she bore a child, for which she and her husband were very grateful.

It is a question whether it is conservatism in cases in which a cyst is removed and there are multiple cysts in the other ovary if one leaves that ovary. In a few such cases in which I have left the ovary the patients have returned with the symptoms all exaggerated and a secondary operation must then be done. Papers with carefully recorded cases like Dr. Polak's will throw light on the subject and give us a better working plan. For twenty years I have worked along this line myself, keeping careful record of cases, and have come to the conclusion that conservatism in saving the ovaries has a limited field. I believe, however, that in the class of cases mentioned in the paper, operation may be done after the acute stage has subsided. Frequently one is obliged to remove the ovary and the tube involved in the suppuration, but in the majority of instances one can save the ovary by liberating it and removing the tube, cutting it well away into the uterus. The woman is left with a practically normal ovary. This can be attached to the round ligament in a higher position than normal. While the woman may not bear children she retains the function of menstruation. If there is any conservatism in saving the ovaries it is in this class of cases, and it is rarely that such patients return for removal of the ovary.

Dr. C. C. Frederick, Buffalo: During my operative experience of over twenty years, I have been imbued with the idea of conserving for every woman on whom I operated as much ovarian tissue as possible with the view of maintaining menstrual function and the better degree of general nervous tone which ensues as a result of that conservatism. As Dr. Clark has said, we all know the mental condition of patients with total ablation of the ovaries, especially in young women early in the menstrual life. But the older I grow, and the more work I do, and the more results of conservative surgery on the ovaries I see, the more inclined I am to be more radical, especially in cases in which the disease in the ovary is primary. In cases in which the ovary is infected because it is in bad company with its corresponding tube, and especially in infection of the ovary by extension of the inflammatory process, I think by getting rid of the tube and then treating the ovary, if it be abscessed, by exsecting the abscess and cleaning out the pyogenic membrane and cauterizing with carbolic acid or the electric cautery, one can leave that ovary with tissue that will continue to functionate and it will give no further trouble. But when the ovary is primarily diseased in one part, you can make up your mind that if the diseased process has not already attacked the other part of the ovary it will eventually do so. The more I have seen of results of conservative surgery in cases in which the disease is primary, the more inclined I am to take the ovary out *in toto*. I have seen many recurrences in this class of cases. Recently a woman came back to me who had been operated on ten years ago. She had multiple cyst of one ovary and a monocyst of the other. At that time she expected to be married and was anxious that the operation should be conservative. Ovarian tissue about two-thirds the size of an ordinary ovary was left. She was in good condition and menstruating six months after the operation. I never saw her again until last week I was sent for and found her a poor, pale, emaciated being in bed with a great big tumor. I found that she had had recurrence of the ovarian tumor which she had neglected. Carcinomatous degeneration with adhesions had ensued and the case was hopeless. I could not take out the tumor without taking her life on the table.

Dr. P. A. Harris, Paterson, N. J.: The routine practice of removing ovaries with diseased or inflamed tubes is absolutely prejudicial to all interests involved. Of all the cases of pus tubes which come to operation, it is in exceptional instances only that both ovaries are so involved as to require their removal. The Fallopian tube is the natural habitat of certain inflammations. The ovary is also sometimes inflamed, but it is always an unwilling participant in the inflammations which ordinarily affect the tubes. When we consider how decidedly dissimilar are the tube and the ovary, both in structure and function, we have a theoretical argument which should sooner have taught us the fallacy of assuming that the ovary is a willing participant in the inflammations which so commonly involve the Fallopian tubes. I am convinced that in not more than 4 per cent. of all cases in which salpingectomy is required will it be necessary to remove both ovaries. I feel sure that 97 per cent. of all women from whom I have removed pus tubes that menstruation continued, and that the removal of the diseased tubes cured them of such pains as resulted from the tubal infections, and that it has been the rule after the removal of the tubes for the patients to return to their normal menstrual habits. Primary dysmenorrhea or the pain with menstruation which existed before the infection of the tubes has not been cured by removal of the tubes. Only such pains as were added to the primary dysmenorrhea by the inflammation of the tubes have been cured by removal of the tubes.

One per cent. and possibly 2 per cent. of women from whom we exsect diseased tubes may have some further trouble due to infection of a remaining ovary. When abscess develops in the ovary in such case it is very easy to cure it by vaginal section and drainage. I think menstruation should be preserved for every woman from whom we remove diseased tubes. An exception might possibly be made for women who have suffered from very painful menstruation from childhood. I wish to say that, in my experience, while the exsection of pus tubes has generally cured the patient of all pains which came to her after she acquired the infection, such operations had little or no effect in affording relief from dysmenorrhea, which occurred and continued from puberty. Such dysmenorrhea is only curable by the removal of the ovaries.

Dr. J. O. Polak, Brooklyn: I think that Dr. Hall received a wrong impression from the paper; I do not condemn the preservation of the ovaries in inflammatory cases, but I condemn resection in the presence of inflammatory conditions. Nor do I operate on these patients during the acute stage by the abdominal route. I make vaginal drainage and wait weeks or months before doing anything further, and in that way I am able to save ovaries. All of us who have done obstetrical work and have followed these postpartum infections know what time will do in Nature's efforts to protect the woman and conserve her organs.

Restriction of Diet in Children's Diseases.—E. Feer, Heidelberg, in an article in *Pediatrics*, states that a very difficult and unsolved problem is how far may one proceed with the starvation period. One often swerves in the doubt between the sins of commission and the sins of omission. When the nutritional conditions of the child are still moderately maintained and when it can still draw on its energy for nutriment, one need not fear instituting a starvation period.

THE TREATMENT OF PUERPERAL INFECTION

A STUDY OF THE CASES TREATED DURING THE LAST FOUR YEARS *

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This report comprises 61 cases, nearly all of which were treated at Wesley and St. Luke's hospitals. Most were cases of severe infection, as the mild cases are usually not referred to the hospital. A number of the patients had been curetted once or twice, had had intra-uterine treatment, had become worse and were sent to the hospital. Twenty-eight of them had a temperature of 103+. In 33 cases the temperature was less than 103; 28 of the patients had an inflammatory exudate in the pelvis. This is the same number that had a temperature of 103+, but there were 9 with pelvic exudate with a temperature of less than 103. Six patients had suppurative peritonitis.

Blood examinations were made as a routine in all the cases. The leucocyte count varied from 5,000 to 58,000, and there were very few that were of any great amount of interest. The increase in the leucocyte count was generally in proportion to the amount of febrile disturbance. In one case the white counts were especially interesting in that the patient did not develop a leucocytosis until she had been in the hospital for about two weeks, although she ran continuously a very high temperature. She had a large pelvic exudate and a profuse purulent vaginal discharge. The slow development of the leucocytosis was probably due to the virulent infection and the low physiologic resistance. The patient showed very little tendency to improve until the leucocytosis developed, when the improvement was rapid. The white blood count varies so generally with the febrile disturbance that it is of very little practical value in a large percentage of the cases. A low count with a high temperature, however, indicates a low resistance or a virulent infection, or both, and is of some value in the prognosis. A continuous diminution of a leucocytosis indicates recovery. The white count is also of value at times in the diagnosis, especially where coincident or complicating pathologic conditions are present.

Bacteriologic examinations to determine the variety of the infections were not made in many cases and were usually disappointing in results. Gonococci were found in only three cases. Bacteriologic examinations, it seems to me, are often unsatisfactory, and the findings as yet are of no practical value in the treatment. This is especially true, as different strains of the same infective organisms may vary as much as do the different bacteria.

COMPLICATIONS

There were the following *complications:* Iliopsoas abscess (non-tuberculous), 1; pyemic abscesses, 1; pneumonia (lobular), probably embolic, 5; phlebitis, 2; intestinal obstruction, 1; acute nephritis, 2. Many of the cases, however, had some albumin and occasional casts.

TREATMENT

The treatment employed is somewhat routine. A careful history is taken and a complete physical examination made. If the fetus is still *in utero,* miscarriage unavoidable and the cervix not dilated, the uterus and vagina are packed with sterile gauze. This is done irrespective of the amount of temperature. It is left in from

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* Read before the Chicago Gynecological Society, May 28, 1909.

TABULATED REPORT OF CASES

Case No.	Supportive Treatment Only	Uterus Explored	Uterus Packed	Vaginal Section	Abdominal Section	No Pelvic Exudate	Pelvic Exudate	Suppurative Peritonitis	Temp. 103+	Temp. —103	Length of Time in Hospital	Recovered	Died	Condition on leaving Hospital	Duration of Pregnancy
1	..	..	..	1	..	..	1	..	1	..	5 weeks	1	..	slight thickening	10 weeks
2	..	..	..	1	1	..	1	..	1	..	3 months	1	..	slight thickening	10 weeks
3	..	..	..	1	..	..	1	..	..	1	1 month	1	..	slight thickening	3 months
4	..	..	..	..	1	..	1	..	..	1	1 month	1	..	no exudate	1 month
5	1	..	..	..	..	..	1	..	..	1	3 weeks	1	..	no exudate	6 weeks
6	..	1	..	..	..	1	..	..	..	1	2 days	1	..	no exudate	3 months
7	1	..	..	..	..	..	1	..	1	..	11 days	1	..	slight exudate	2 months
8	..	1	..	1	..	..	1	..	1	..	2 months	1	..	slight thickening	1 month
9	..	..	..	1	..	..	1	..	1	..	24 days	1	..	no exudate	6 weeks
10	1	..	..	..	..	..	1	..	1	..	2 weeks	1	..	no exudate	term
11	..	..	..	1	..	..	1	1	1	..	20 days	..	1	....	4 weeks
12	..	..	..	1	1	..	..	1	1	..	6 days	..	1	....	term
13	..	..	..	1	..	1	..	..	..	1	2 weeks	1	..	no exudate	6 weeks
14	1	..	..	..	..	1	..	..	..	1	4 days	1	..	no exudate	10 weeks
15	1	..	..	..	..	..	1	..	1	..	12 days	1	..	no exudate	3 months
16	1	..	..	..	..	1	..	..	..	1	7 days	1	..	no exudate	6 weeks
17	..	1	..	..	..	1	..	..	..	1	7 days	1	..	no exudate	3 months
18	1	..	..	..	..	1	..	..	1	..	2 weeks	1	..	no exudate	term
19	1	..	..	..	..	1	..	..	1	..	5 weeks	1	..	no exudate	term
20	..	1	..	1	..	..	1	1	1	..	2 days	..	1	....	4 months
21	..	1	..	..	..	1	..	..	..	1	18 days	1	..	no exudate	4 months
22	1	..	..	..	..	1	..	..	..	1	2 weeks	1	..	no exudate	10 weeks
23	..	..	1	..	..	1	..	..	..	1	4 days	1	..	no exudate	2 months
24	1	..	..	..	..	..	1	..	1	..	3 weeks	1	..	no exudate	term
25	..	..	1	..	..	1	..	..	..	1	2 weeks	1	..	no exudate	5 months
26	..	1	..	..	..	1	..	..	..	1	4 days	1	..	no exudate	6 weeks
27	1	..	..	..	..	1	..	..	..	1	6 days	1	..	no exudate	term
28	1	..	..	..	..	1	..	..	..	1	3 weeks	1	..	no exudate	term
29	1	..	..	..	..	1	..	1	1	..	few hours	..	1	....	unknown
30	1	..	..	..	..	1	..	..	1	..	5 days	1	..	no exudate	term
31	1	..	..	..	..	..	1	..	..	1	3 weeks	1	..	slight exudate	2 months
32	1	..	..	..	..	..	1	1	1	..	5 days	..	1	....	term
33	1	..	..	..	..	..	1	..	..	1	3 weeks	1	..	no exudate	10 weeks
34	..	1	..	..	..	1	..	..	..	1	10 days	1	..	no exudate	2 months
35	..	..	1	..	..	1	..	..	..	1	2 weeks	1	..	no exudate	3 months
36	1	..	..	..	..	..	1	..	1	..	12 days	1	..	no exudate	term
37	1	..	..	..	..	..	1	..	..	1	6 weeks	1	..	slight exudate	4 weeks
38	1	..	..	..	..	..	1	1	1	..	4 days	..	1	....	3 months
39	..	1	..	..	..	1	..	..	..	1	12 days	1	..	no exudate	3 months
40	1	..	..	..	..	..	1	..	..	1	2 weeks	1	..	no exudate	term
41	..	1	1	..	..	1	..	..	..	1	2 weeks	1	..	no exudate	2 months
42	..	1	..	..	..	1	..	..	..	1	3 weeks	1	..	no exudate	2 months
43	1	..	..	..	..	1	..	..	1	..	7 days	1	..	no exudate	3 months
44	..	1	..	..	..	1	..	..	..	1	1 week	1	..	no exudate	2 months
45	1	..	..	..	..	..	1	..	..	1	6 weeks	1	..	some exudate	6 months
46	..	..	..	1	..	..	1	..	1	..	7 weeks	1	..	no exudate	6 months
47	1	..	..	..	..	1	..	..	1	..	2 weeks	1	..	no exudate	term
48	1	..	..	..	..	1	..	..	..	1	1 week	1	..	no exudate	2 months
49	..	.	1	..	..	1	..	..	..	1	3 days	1	..	no exudate	2 months
50	..	..	1	..	..	1	..	..	..	1	10 days	1	..	no exudate	2 months
51	1	..	..	..	..	1	..	..	1	..	6 weeks	1	..	no exudate	term
52	..	1	1	..	..	1	..	..	..	1	1 week	1	..	no exudate	10 weeks
53	1	..	..	..	..	1	..	..	..	..	6 days	..	1	....	4 months
54	..	1	1	..	..	1	..	..	..	1	1 week	1	..	no exudate	2 months
55	..	1	1	..	..	1	..	..	1	..	2 weeks	1	..	no exudate	6 weeks
56	..	1	1	..	..	..	1	..	1	..	3 weeks	1	..	no exudate	term
57	..	..	..	..	1	..	1	..	1	..	9 weeks	1	..	no exudate	term
58	..	1	1	..	..	1	..	..	..	1	10 days	1	..	no exudate	2 months
59	1	..	..	..	..	1	..	..	1	..	2 weeks	1	..	no exudate	term
60	1	..	..	.	..	..	1	..	1	..	2 weeks	1	..	no exudate	term
61	1	..	..	..	..	..	1	..	..	1	1 week	1	..	no exudate	1 month
	31	16	11	8	3	33	28	6	28	33		54	7		

twenty-four to forty-eight hours, depending on the results. It is repacked if there is not sufficient dilatation to empty the uterus without much traumatism. It is not uncommon to have the gauze, fetus and secundines expelled spontaneously. If the fetus has been expelled, the uterus is explored to see if it is empty, if indicated by the presence of hemorrhage or offensive uterine discharge, except under conditions mentioned later. If there is no hemorrhage or offensive uterine discharge the uterus is considered empty. It is possible but not probable for it to contain some secundines in the absence of hemorrhage and offensive discharge, but in this event if left alone the discharge will soon become offensive. If the uterus is small and well contracted, even in the presence of a slight offensive discharge, it is not explored. The uterus is explored and emptied, preferably with the finger. It is probably a conservative statement that one can never be perfectly sure that all tissue is removed from the uterus except by digital exploration. The statement is often made that the entire cavity cannot always be reached with the finger. My associates and I believe that with an anesthetic and pressure from above the entire cavity can be explored with the finger.

To pack the uterus and allow it to empty itself is always good treatment, and is especially good treatment even with a dilated cervix to be employed by the inexperienced or to be used where the surroundings are unsuitable for surgical work. The harm resulting from retention of some of the secundines has been very much overestimated. There is not such an urgent demand for their immediate removal as would be indicated from the literature. This is well illustrated by the experience of dairymen. Cows often have retained placentæ: they become infected and offensive, but they are always expelled spontaneously about the ninth day, and they apparently never cause death. One should treat an infection in the uterus much as one would an infection of the hand. One would not scrape, tear and cauterize sloughing tissue on an infected hand; one is no more justified in doing so in the uterus. In either instance all decomposing and sloughing tissue should be removed that can be with little or no traumatism; otherwise it should be left to separate spontaneously.

The finger may be aided by *placenta forceps* or a large curette; the preferable instrument, I believe, is the placenta forceps. One may quite easily mistake with the finger the rough surface where the placenta was attached for retained tissue. This may also be grasped with placenta forceps and be mistaken for some of the secundines. If one uses a curette it should be as large as can be conveniently passed through the cervix, as a large curette is less dangerous and much more efficient.

After the uterine cavity is emptied no more intrauterine treatment is indicated and it is left alone. An intrauterine douche is always dangerous and is practically useless. There is very little objection to wiping out the uterus at this time with gauze, but this is probably of very little value. There is no indication to use any drain, as it will drain itself. The use of gauze in the uterus would interfere rather than facilitate drainage and it always increases decomposition. Better drainage is accomplished by elevation of the head of the bed. If there is any infection about the vulva, a wet dressing is kept over it to prevent coagulation of the discharges and thus to facilitate drainage. No vaginal douches are used; they often do harm, can not possibly be of much service; the nurse will usually introduce more infection than she will remove, and they are disturbing to the patient. After all that has been said against the use of douches in these cases, physicians quite generally employ vaginal douches frequently and often subject the patients to the dangerous intrauterine douche.

There has been much said about the "protective leucocyte wall" that is formed in the uterus in cases of infection and of the importance of not disturbing this by curettage, treatment, etc., but I believe that enough has been said about the thrombi that close up the uterine sinuses, which readily become infected and often produce serious trouble by being dislodged with intrauterine treatment. In cases of pelvic exudate my associates and I seldom explore the uterus even if there is some suspicion of retained tissue, as these cases are especially liable to be made worse by intrauterine manipulation.

The peritoneum is considered to be involved when there is pain; absence of pain usually means absence of peritoneal involvement.

The uterine cavity was explored in only 16 of the 61 cases, and the uterus and vagina were packed with gauze for the purpose of emptying the uterus in 8 cases. In 31 of the cases the only treatment employed was the use of means to build up the physiologic resistance.

The supportive treatment consisted chiefly in building up the physiologic resistance. The routine of it consisted in the following:

1. Forced nutritious diet.
2. Attention to elimination.
3. Relief of pain.
4. General hygienic treatment, especially fresh air and sun baths.

INDICATIONS FOR SUPPORTIVE TREATMENT

Much attention was paid to the building up of the physiologic resistance in all of the cases, and in 16 of the cases with a pelvic exudate it was the only treatment used. After excluding the necessity for exploration of the uterine cavity or after the uterus has been emptied, the patients were put on this treatment. This treatment was then continued if the patient improved. In the great majority of cases in which the patients were very ill they were put on this treatment as a test to determine whether the tendency was to improve or do otherwise. As soon as it seemed certain that the tendency of the case was to get worse we resorted to more radical procedures except in hopeless cases. We learned, however, that in a number of the cases the patient would have recurrent attacks of fever lasting for a few days and then would go on to recovery. This occurred in a number of cases in which there was a large pelvic exudate. In some of the cases the exudate extended down to the side or posterior to the vaginal canal, and in some the exudate extended upward as high as the crest of the ilium and nearly to the umbilicus.

Our knowledge as yet has given us nothing that is so valuable in the treatment of puerperal infection as the building up of the physiologic resistance. In the cases of pelvic exudate or suppuration the systemic infection is much more important than the local infection. In a majority of the cases the exudate or the pus will become sterile in two or three weeks without operation. With operation there is little or no hope of shortening the duration of the febrile disturbance, and in cases of exudate there is considerable probability that the duration of the infection will be increased by incision and drainage, as this is very liable to result in a secondary infection. *The serum treatment of puerperal infections has* proved as yet to be of no value.

My associates and I believe that resistance is best increased by nutritious diet, and for this purpose milk, beef-juice and eggs were chiefly depended on. An ice-bag is placed over the abdomen for the relief of pain and it may have some local value. Much care is given to see that the patient sleeps six or eight hours out of the twenty-four. Codein or morphin is given in sufficient quantities to insure rest and generally in sufficient quantities to relieve pain. Fluids are depended on chiefly to stimulate elimination. If patients do not take two quarts or more by the mouth in each twenty-four hours salines are given by the rectum. We occasionally use the drop method with the foot of the bed raised in the very bad cases if postural drainage is not indicated. We believe this to be especially indicated in cases in which the tongue is dry, those in which the stomach is disturbed and those in which the kidney excretion is small. Sun baths and fresh air were given in abundance. We have been especially careful not to disturb the patient by treatment, for we believe that the cheerful state of the patient is of extreme importance, as it aids much in giving them an appetite, in the digestion of food and in procuring sleep. In the majority of cases of puerperal infection the body will develop an immunity or will destroy the infection in the course of two or three weeks with the above outlined treatment.

Vaginal section was made in eight of the sixty-one cases. Three of the cases of vaginal section had suppurative peritonitis and were fatal. In the other five cases section was done after the supportive treatment alone failed to give desired results and was used more frequently in the earlier than later cases.

Abdominal section was done in three cases. In one case of abdominal section a solid exudate was found involving the right broad ligament, the right ovary and tube, the appendix and the head of the cecum. This was done after the very acute symptoms had subsided when the condition of the patient seemed to be at a standstill. The operation was entirely explorative and it was found impossible to remove the inflammatory mass *without* doing great injury to the intestines. The patient went on to complete recovery and the mass had entirely disappeared when she left the hospital. In one case the section was for intestinal obstruction, and in the other secondary to vaginal section and drainage in a case of gonorrheal infection. There were six cases of suppurative peritonitis and they were *all fatal*. *Three of them* had vaginal section and drainage. Abdominal section was made in none of them, as the condition of the patients was so serious that it seemed to offer no hope.

LENGTH OF TIME IN HOSPITAL

This was as follows:

One week or less, 21 patients. This included 6 fatal cases; none with pelvic exudate.
One to two weeks, 20.
Two to three weeks, 9.
Three to four weeks, 2.
Five weeks, 21.
Six weeks, 3.
Seven weeks, 1.
Eight weeks, 1.
Nine weeks, 1.
Twelve weeks, 1.
Patients with pelvic exudate average twenty-five days.

This gave an average of sixteen days for all cases and an average of a little over seventeen days for the patients that recovered. In six of the seven fatal cases the patints died before they were in the hospital one week.

Fifty-four patients recovered and seven died. Eight of those who recovered had a slight thickening at the site of the exudate on leaving the hospital. Two of them went home with some exudate before the febrile disturbance had entirely disappeared. One patient had a considerable mass two or three inches in diameter in the region of the left ovary and tube at the time of leaving the hospital. She was advised to have an abdominal section, but declined.

DEATHS

One patient had a general suppurative peritonitis and died in a very few hours after admission to the hospital. She was so ill that there was very little treatment given. One other patient came in in nearly the same condition and died in twenty-four hours. Four other patients had general suppurative peritonitis and died in a few days after admission to the hospital. In three of them we made vaginal section and drainage, which was of no value. These six patients were so ill that recovery seemed hopeless. One died after a vaginal section and drainage. She was admitted to the hospital with a large pelvic abscess, which was opened and drained through the posterior vaginal fornix. She improved for a few days, when a second abscess formed, which was opened up through the old sinus. Slight improvement occurred after this, but a general suppurative peritonitis followed and death resulted. It is possible that an abdominal section in this case with a radical operation would have resulted in recovery. The patient died on the twentieth day after admission to the hospital.

Patient 2 was interesting, as she developed an iliopsoas abscess. There was no tuberculosis, but there was a colon bacillus infection. The abscess was drained through an incision in the posterior vaginal fornix. The patient made a complete recovery, without any injury to the joint.

Patient 7 was interesting, as she developed a pelvic abscess secondary to curettage. She was admitted to the hospital on account of a very severe hemorrhage; very little tissue was found in the uterus; the retained secundines were probably passed in the blood clots. It is quite probable that she would not have developed an abscess if she had not been curetted.

Patient 59 had intestinal obstruction due to an exudate involving the pelvic colon. The obstructive symptoms disappeared after freeing the intestine. The patient had numerous attacks of dilatation of the stomach when one to two quarts of liquid would be washed out of the stomach. She also had an embolic pneumonia. We have been surprised at the infrequency of secondary colon bacillus infection in the cases of pelvic exudate. In none of the cases did there seem to be any indication for ligation or excision of thrombosed veins.

The amount of medication used in these cases has been comparatively small. We seldom use stimulants of any kind and believe that alcoholic beverages are seldom of use and often do much harm. We have given no tonics except occasionally, and then only with the hope of increasing the appetite for food. There is no evidence that the use of ergot to produce uterine contractions is of any value. It increases the danger of displacement of the infected thrombi in the uterine sinuses, and there is no special value to be expected from uterine contractions. The bowels are usually moved by the use of saline enemas and occasionally by the use of purgative enemas. It is not found necessary to give cathartics very often by mouth. We are thoroughly impressed with the belief that the treatment generally employed for puerperal infections has not kept pace with the advance in the knowledge of the pathology and bacteriology of these infections and that it is still influenced by a woeful amount of meddlesome and dangerous traditions.

CLASSIFICATION

It will be noticed in the tabulated report that there is no classification in the treatment of sapremic and septicemic cases and of the infections before and at term. I believe that such classifications confuse a study of the subject and are of no practical value. The mistake is often made of considering some cases as local and others as systemic infections. Infections with putrefactive bacteria are often considered sapremic or local infections and infections with other bacteria as systemic infections. There is fever in both varieties of the infection, and that means that there are bacteria and toxins in the blood in both instances, which could always be demonstrated if our tests were sufficiently delicate. Bacteria and toxins in the blood mean systemic infection. Putrefaction bacteria are often associated with other bacteria; and even non-pathogenic bacteria under certain conditions may become pathogenic. There is no anatomic, physiologic or pathologic reasons for any distinction in the treatment between infections before and at term.

These cases have helped to teach us that the systemic infection is much more important than the local infection and that the systemic treatment is more important than the local treatment; that the most important systemic treatment consists in supporting and increasing the physiologic resistance; that the infection, like most bacterial infections, will last until an immunity develops; that this immunity will vary with the variety of the infection, with the virulence of the variety and with the resistance of the patient; that there is more danger of doing too much than too little; that it often requires more courage to avoid radical procedures than to perform them; that the energetic local treatment generally used is more dangerous than the infection.

103 State Street.

Contagiousness of Tuberculosis.—Montano, the celebrated physician (1550) declared tuberculosis to be one of the most dangerously contagious and most easily contracted of diseases, and an equally strong advocate of the theory of contagion was the anatomist, Morgagni (1682-1771), who would never perform autopsies on those who died from tuberculosis. —*Propaganda of the N. Y. State Charities Aid Association.*

THE CARE OF THE TUBERCULOUS AT THE FREE DISPENSARIES OF THE CHICAGO TUBERCULOSIS INSTITUTE

WITH SPECIAL REFERENCE TO THE USE OF TUBERCULIN AS A DIAGNOSTIC AND THERAPEUTIC AGENT

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Not since the earliest history of medicine or from the beginning of that period when tuberculosis began to be recognized as a distinct disease has such general and heroic onslaught been attempted to stamp out or check the growth of consumption as is being made at the present time in every civilized community. At the present day the medical profession in general is making a most vigorous campaign on the 'white plague" and in medical circles and association meetings various papers are frequently read and discussed on the prophylaxis, treatment and prevention of consumption. The legislatures of most of our states are establishing state sanatoriums for tuberculosis. Here in this city the Chicago Tuberculosis Institute has for many years undertaken, alone and single-handed, this almost hopeless and prolonged fight against tuberculosis. In order to extend its field of activity the establishing of a number of dispensaries in various sections of this city has been undertaken.

We shall try to explain how patients are received, treated, cared for, kept under observation, and looked after while they are enrolled as patients of the Tuberculosis Institute. The order of treatment and care of patients is, with probably very little modification, about the same at all of our dispensaries. The patient supposedly tuberculous is first received by a competent nurse, who interrogates him or her as to antecedents, duration of complaint, family history, previous ailments, environments, home comforts and surroundings, if sanitary or otherwise, the earning capacity of each member of the family, as well as that of the individual presenting, taking the pulse, temperature, respiration, weight, etc., all of which is most carefully noted on a specially provided chart, and after all questions have been satisfactorily answered, all answers noted down, the patient is then presented to the physician for examination. On the reverse side of these provided history charts are two representations, the anterior and the posterior aspect of the chest, and all pathologic thoracic findings are carefully indicated by the physician on these diagrams. Before the physician undertakes the physical examination he tries to elicit from the clinical picture presented an idea of what conditions or complications he may expect.

When all has been carefully tabulated and the examining physician has satisfied himself that the case is tuberculous the patient is given into the special care of the nurse and she visits each patient at his or her home, and usually at the following meeting, which is in three or four days, makes a report to the examining physician as to the home surroundings, what means can be furnished to the sufferer by his family or friends, what provisions will be made to make the sleeping-apartment as near to out-of-door living as is possible; also what friendly aid the patient's family is willing to give to both the patient and the workers in the institute. The nurse tries in all cases to impress on the other members of the family the paramount need of good wholesome fresh air, food, pleasant surroundings, cleanliness, all of which are essential in combating and arresting tuberculosis.

Everything being satisfactory, the patient is now furnished with a fever thermometer and a blank note-book, with printed directions, is taught by the nurse how to read the temperature, record and count the pulse, all to be carefully and accurately recorded in the note-book at least four times each day. We rigidly insist on the taking of the temperature and the counting of the pulse by each patient immediately on rising, before anything has been put into the mouth. These results must be accurately recorded in the note-book, as well as the subsequent results taken daily at 11 in the morning, 4 in the afternoon, and again at bedtime. Our patients are also required to note down daily in these books the amount and quality of food consumed at each meal, how they feel, and incidentally about the weather each day, and to note down what they do and what amount of exercise they take daily. We insist on regularity in taking nourishment, and very much deprecate the irrational stuffing method so much in vogue now. Following the ingestion of a wholesome breakfast, which should include one or two raw or soft-boiled eggs, a glass of milk, sufficiently well-buttered bread, bacon, cereals and fruit, if desired, no more shall be put into the stomach until the noon meal, and after a substantial noon repast nothing more until the evening dinner. A glass of milk with bread or crackers may be allowed at bedtime. Experience has taught that in this long-drawn-out fight of the body tissues for supremacy the stomach is much better prepared to aid in this struggle, to assist digestion, if a sufficient interval is allowed for rest between each meal.

Patients with positive findings at the very beginning of their enrolment are required to report at the dispensary twice each week and under no circumstances can a patient receive treatment or encouragement unless he or she produces the note-book, giving in tabulated form the patient's condition since the previous visit. From time to time our nurses at the dispensary again visit these patients at their homes to satisfy themselves that the physician's orders are strictly carried out, and should the members of the patient's family or the attendant show any negligence or any relaxation from this constant vigil, it is at once reported to the examining physician. In coping with tuberculosis we depend mostly on good wholesome and nutritious diet, pleasant environments, home comforts, sufficient rest, and an abundance of fresh air, the giving of medicines being of minor importance.

For some time the use of tuberculin in the treatment of tuberculous subjects in carefully selected cases without complications, given hypodermically in infinitesimal doses, has been followed by most encouraging results, and yet the promiscuous use of tuberculin in the hands of the inexperienced cannot be too highly condemned. When tuberculin is used at all, the patient must be under constant observation. Should this not be possible, then tuberculin must not be used. The physician must always remember that tuberculin is not an antitoxin, but a toxin, a direct poison, the product of the tubercle bacilli, and that the object of its use in minute doses is to stimulate the body tissues to the production of antibodies.

Tuberculin is used both for diagnostic and for therapeutic purposes. For diagnostic purposes, in small children we rely chiefly on the so-called Moro test. For children and young adults we use principally a 25 per cent. solution of tuberculin, making use of the so-called von Pirquet method of vaccination. For adults a subcutaneous injection of five drops or 1/3 c.c. of a 1 per cent. solution of tuberculin is used. Koch's old tuberculin, properly diluted, is used for both diagnostic and therapeutic purposes. These dilutions can very easily and properly be prepared by any physician possessing the necessary laboratory training. As accuracy is most essential in making dilutions of tuberculin, in order to insure uniform and proper dosage, measuring instruments, such as pipettes and graduates, are indispensable We will explain in somewhat extended detail how we prepare the dilution of tuberculin in use at our dispensaries.

Koch's O.T., 1 c.c., approximating 1 gram, is diluted with 0.5 per cent. carbolic acid in physiologic salt solution, making a 10 per cent. dilution of tuberculin; or to 1 c.c., O.T., are added 9 c.c. of phenolized physiologic salt solution. This is put into a bottle and labeled No. 0; of this 1 c.c. equals 0.1 gram, or about 1½ grain. Now the next or second dilution is begun by taking 1 c.c. from the bottle labeled No. 0, putting it into another sterilized bottle, and adding to it 9 c.c of the same phenolized physiologic salt solution, and the bottle is labeled No. 1. This gives a 1 per cent. tuberculin solution; each cubic centimeter equals 1 in 100, or 1 c.c. equals 0.01 gram, or about 1/6 grain. This dilution from bottle labeled No. 1, which is a 1 per cent. solution, is the one which we generally use for diagnostic purposes in adults by injecting hypodermically 5 drops. By taking 1 c.c. from bottle labeled No. 1 we prepare the dilution which is labeled No. 2, by adding to this 1 c.c., 9 c.c. of phenolized normal salt solution. This dilution, labeled No. 2, equals 1 in 1,000, or 1 c.c. equals 0.001, or about 1/60 grain. Again the dilution made by taking 1 c.c. from bottle labeled No. 2 and 9 c.c. of this same phenolized normal salt solution is designated dilution No. 3. Now, 1 c.c. of No. 3 equals 1 decimilligram, or for convenience 0.1 mg., or about 1/600 grain. No. 4 is prepared by taking from the above-mentioned No. 3, 1 c.c. and adding 9 c.c. of phenolized normal salt solution. Then 1 c.c. equals about 1/6000 grain, or 1 centimilligram, which again for convenience is better expressed as 0.01 mg. No. 5 is prepared from No. 4 in a similar way, each cubic centimeter of which equals 1 millimilligram (0.001 mg.), or about 1/60,000 grain.

Patients with pulmonary tuberculosis whom the examining physician considers suitable or selected to receive tuberculin as a therapeutic measure are treated by the hypodermic method by means of a specially provided syringe of 1 c.c. capacity divided into 100 parts. As we have no definite knowledge of the amount of antibodies possessed by any patient—neither his resisting power nor his tolerance for tuberculin—nor have we with our present knowledge of medicine any undisputed means of ascertaining either, it is advisable to be cautious, and in selected cases to begin by giving infinitesimal doses. We begin by injection in suitable cases with an initial dose of 0.05 or 0.1 c. c. from the bottle labeled No. 5, which contains the most diluted tuberculin preparation. This equals for the initial hypodermic injection 1/20 or 1/10 millimilligram.

It is generally stated that tuberculin should be used only in selected or suitable cases. What are selected cases, and when is a case suitable, and when not suitable? We consider as suitable all such cases which do not show a very marked variation in the temperature recorded during the twenty-four hours. A daily temperature not exceeding, at any time during the day, 99.5 may be considered suitable, remembering that a temperature above 99.8 to 100 is always unsuitable. An afternoon temperature varying very little from 98.8 to 99.5 is considered suitable to begin giving 0.05 to 0.1 c.c. from the vial labeled No. 5. The smaller the variation in temperature from the normal for the daily record, the better suited is the case for tuberculin treatment. It should always be remembered that in patients showing but very slight variation in temperature, possessing fairly good resisting power, which is usually manifested by a fair digestion and appetite, a fairly healthy appearance, refreshing sleep, absence of thoracic pain, the treatment should be chiefly hygienic and dietary, and that tuberculin for therapeutic purposes should not be administered. The object in using tuberculin is to stimulate the body tissues to greater activity in producing antibodies, thereby increasing the resisting power. Should this power be apparently sufficient to cope with the inroads of bacillary activity, then the use of tuberculin may cause an overstimulation, which should be avoided.

A case being considered suitable, as stated above, we begin by giving an initial hypodermic injection of 0.05 or 0.1 c. c. of the diluted tuberculin bottle No. 5. Should this injection be followed by a systemic reaction, as shown by headache, malaise, pains in the muscles, loss of appetite, increase in temperature, a second injection should not be given for at least a fortnight, after which another, about one-half the former quantity, may be used. On the other hand, should no untoward symptoms follow this initial injection, then after three or four days a second injection of double the initial dose, or 0.2 c.c. may be given. If none, or possibly a very slight reaction is manifested, then at an interval of three or four days a third injection is given, using 0.3 c. c. from bottle labeled No. 5; and we proceed in this manner until we reach as high as 0.9 c.c. of bottle labeled No. 5. One c.c. of bottle No. 5 being equal in tuberculin strength to 0.1 c.c. from bottle labeled No. 4, and in order to avoid using large quantities for injection, at our next treatment we give 0.1 c.c. from vial No. 4 and proceed as before.

It should be remembered that the treatment with tuberculin must be progressive and only in minutely increasing doses. Should a patient to whom progressively increased doses of tuberculin have been given show a rise in temperature after a number of injections, a rise above 99.8 to 100, further hypodermic medication must be discontinued until the temperature is again below 99.5, when we may continue our treatment by dropping back to about half the strength tuberculin dilution of the last injection given and carefully watch its results. Should this again be followed by a rise in temperature, we proceed as before, but again drop to one-half of the injection which was followed by a temperature rise. So also we observe that no injection should be given if at the seat of the last given hypodermic medication a little local reaction still lingers, manifested by an area of hyperemia, or if a nodule is plainly palpable under the skin. Tuberculin should be used cautiously, and in small doses only, to be discontinued if any reaction, either local or systemic, shows itself, be it ever so little. These progressive injections may be continued over periods varying from six to eighteen months.

When the administration of large doses has been reached the patients often show the beneficial effect of the medication. Body weight is increased, appetite and digestion good, temperature nearly normal for the twenty-four hours, and the general appearance is exceedingly good. When this stage has been reached we begin by giving a progressively descending medication, and gradually discontinue all tuberculin treatment when the patient's general health shows unmistakable evidences of arrested processes or possibly healed and cured lesions. The physician must always bear in mind that in all cases, either recent or chronic, showing great activity of the tuberculous invasion, in all hemorrhagic cases or such showing the slightest tendency to hemorrhage, as well as in all laryngeal cases, the use of tuberculin is vigorously contraindicated.

CONCLUSIONS

1. In cases of pulmonary tuberculosis without elevated temperature and low resistance, the proper administration of tuberculin is of undoubted efficacy.
2. Tuberculin is capable of producing great injury to the patient and this injurious influence calls for the greatest discretion in its proper administration.
3. There is frequently increased cough and expectoration following its injection. This, in itself, is not an untoward symptom. Tuberculin is an expectorant, *par excellence.*
4. Persistence of such clinical manifestation as general lassitude and physical weakness should cause the discontinuance of its administration.
5. In the presence of a mixed infection with high temperature incident thereto the use of tuberculin is inexpedient.
6. The opsonic findings in dispensary practice are impracticable at this time. Clinical study is absolutely essential in determining the size and frequency of the dose.
7. We caution against the use of tuberculin in advanced cases with positive findings. In this stage alarming results have followed its administration.
8. Tuberculin should not be administered to any patient unless it is possible to obtain an accurate daily record of the case.
9. Pulmonary hemorrhages are contraindications to the use of tuberculin, should slight hemorrhages manifest themselves during the treatment its use must be discontinued at once.

100 State Street—39 Pine Grove Avenue.

Clinical Notes

AN UNUSUAL CASE OF INSANITY WITH AN OBSCURE DIAGNOSIS

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The following case came under my observation during 1907 and 1908, and, as it showed such a variety of mental conditions, I thought it of sufficient interest to report:

Patient.—M. S., female, aged 33, single, born in Austria, was a domestic with common school education. Maternal and paternal grandparents lived to be over 70 years old. Mother and father are healthy and there is no history of alcoholic excesses, cancer, tuberculosis, paralysis, insanity or nervous diseases in the family. One brother had infantile convulsions but has been in perfect health since.

Past History.—M. S. was the second of four children, the rest of whom are in good health. Mother was 26 and father 24 years old at the time of patient's birth. Mother had a severe attack of typhoid fever just prior to patient's birth, but birth was normal and patient was free from sickness during the developmental period. She went to school seven years and reached the eighth grade. In disposition she was considered cheerful, sociable, kind, optimistic, ambitious and even-tempered. As a domestic, she held one position for years.

First Attack.—January, 1907, patient had an attack of grip, which lasted eight or ten days and from which she did not fully recover. In June following she felt so weak and run down she consulted a physician. He advised her to take a rest on account of the existing profound anemia. She did not stop work, however, but the week following the general feeling of exhaustion became so marked that it was necessary for her to take to her bed. After remaining in bed about ten days her relatives and friends noticed a mental change. She became irritable, apathetic and stupid. She also made queer statements, such as that she "had not brains enough to cry," etc. During the following four weeks patient was untidy; slept but little; took no interest in her surroundings; refused to answer questions or to talk spontaneously. She ate but little during this period and frequently refused food altogether.

Physical Examination.—On July 31, 1907, patient was admitted to this institution in a weak and emaciated condition. Her height was 5 feet; weight, 87¾ pounds. Pulse was 120; respirations, 22; temperature, 97 2/10; tongue coated; breath offensive. Bowels constipated and skin dry and scaly with acne eruption over back and face. Blood examination showed the hemoglobin to be 60; erythrocytes, 3,800,000; leucocytes, 12,000. Differential count: Neutrophiles, 58 per cent.; lymphocytes, 32 per cent.; large mononuclears, 4 per cent.; eosinophiles, 5 per cent.; basophiles, 0.5 per cent. and transitionals, 0.5 per cent. A catheterized specimen of urine was found to be negative, except for a marked excess of indican. No organic changes could be found in the respiratory, circulatory, digestive or generative organs, though the physiologic action of these various systems was very sluggish.

Examination of Nervous System.—Expression of the eyes was dull and staring; sight apparently unimpaired; pupils circular; left 3 mm., right 4 mm. in diameter. Both reacted to light and to accommodation. Hearing was apparently unimpaired. The senses of taste and smell could not be tested on account of the mute and negativistic state of the patient. Cutaneous sensations were tested with difficulty. Patient reacted to pain; also to tactile stimulation. Heat and cold were not reacted to. Deep reflexes were equally exaggerated on the two sides. Superficial reflexes subnormal. Romberg and Babinski signs were absent. Organic reflexes were not under the patient's control. There was some vasomotor paralysis, face and body being livid and the extremities cyanotic.

First Mental Examination.—Three days after admission an examination of the mental status was attempted, with the following findings: Patient was mute, resistive, untidy, negative and tube-fed. Her movements were stiff and awkward and she would stand in one position for hours, staring into space. When given attention she resisted and would often strike at the nurse. She kept up a rhythmical movement of the lower jaw. Sleep was insufficient. Speech, memory, orientation, delusions, hallucinations and school knowledge could not be tested because of the mute state of the patient. Consciousness was somewhat blunted, though patient appeared to have a clouded grasp on her surroundings. She associated to a limited extent, this being demonstrated when the examiner approached her with a pin. She also showed restiveness when taken into the operating room to be examined. The emotional feelings were blunted. Her facial expression was stolid and never changed. There was a general state of apathy with some irritability, when given attention. Volition was greatly disturbed and there was paralysis of the will. Occasionally she was impulsive, but most of the time, negative, mute and resistive, with associated hypermuscular tension. Social relations were greatly disturbed. Patient was difficult to care for because of her untidy and resistive state. A diagnosis of catatonic stupor was made on the basis of the above mental examination and anamnesis.

Patient remained in the institution for six months, during which time she gradually regained all her mental faculties and was discharged as cured. After leaving the institution she went back to her old position and did excellent work for six months; then became maniacal, which necessitated a readmission on July 23, 1908.

Second Attack.—The patient's affect on being readmitted was the opposite to what it was during her previous residence in the institution. On the first admission she was stupid, mute, apathetic, negativistic, untidy, and in poor physical health. At this time she was active, talkative, distractible and showed marked flight of ideas with some incoherency. Her physical health was good and she weighed 118 pounds.

Second Mental Examination.—This was made five days after the second admission: Patient had been in an actively maniacal state ever since being readmitted. She either sang, danced, laughed or talked incessantly. Occasionally she teased the other patients. On one occasion she broke out several window-panes. Her habits, on the whole, were good and her movements and speech were for the most part purposeful. She was perfectly oriented for time, place and person and consciousness was clear. Enunciation was loud and articulation distinct. School knowledge was in harmony with her opportunities. She wrote her name rapidly and the letters were large. Memory for remote as well as recent events was quite clear, except the period during which she was confined here on the previous admission. Of this she had but a hazy recollection. Hallucinations and delusions could not be demonstrated. The associative processes were very much enlivened and a marked flight of ideas with some looseness of thought connections was prominent. Patient was distracted by every new impression. Sustained attention was impossible. The emotional feelings were heightened and there was an exaggerated reaction to mild stimulation of the emotional sphere. The lower emotions were considerably involved. Feelings of hunger and fatigue were lessened. The sexual feelings were exaggerated. Volition was hyperactive and there was a marked pressure of activity with more or less purposeful movements. Mannerisms and negativistic states were not noted. Patient was constantly on the move and required considerable supervision. She was tidy in habits but careless of her general appearance. Occasionally her elation was beyond her control and she tore her clothes and disarranged the furniture in the ward. Most of the time her actions and speech were of a playful nature. Based on the above mental examination and physical state, a diagnosis of excited form of manic depressive insanity was made.

Course of Disease.—The above mental and physical conditions remained about stationary until during October, when patient became untidy, destructive, abusive and more or less violent. In November following the patient had one convulsion of the grand mal type, followed by stupor and mental confusion. November 20 she had six very severe convulsions, after which she was badly confused and clouded for two days. On November 24 patient had one slight convulsion. On December 15 patient was noticed not using her left hand, and when examined a neuritis of the musculospiral nerve was found. Her mind at this time was clearer than it had been for two months and she was able to assist with her personal care and the ward work. January 15 patient was very comfortable and quiet; had visitors and seemed to enjoy their company. Her movements were slow and somewhat retarded. February 15, patient was again destructive, violent and untidy and required special supervision. During the first few days in March the patient was quiet and well behaved. At noon on March 9 she began having convulsions and was not entirely free from them until 11:30 p. m. Her circulation became very feeble and edema of the lungs and brain caused her death at 4:30 the following afternoon without regaining consciousness.

An autopsy, though greatly desired, was refused by the relatives.

SUMMARY

There are several interesting features in this case to which I wish to call special attention.

1. The first attack presented all the cardinal symptoms of stuporous catatonia.
2. Complete recovery followed.
3. The second attack gave a clear picture of the excited form of manic depressive insanity.
4. The manic state was followed by a period during which definite delusions of persecution with violent and destructive tendencies were noted.
5. General convulsions of the grand mal type entered into the mental picture.
6. A short stage of depression, during which delusions of depression and retardation were the predominating symptoms.
7. Death was caused by epileptiform convulsions.

A true diagnosis of this case in my mind is difficult; in fact, I have never observed a case or seen one reported which presented so many distinct phases of mental aberration.

QUININ AND UREA HYDROCHLORID AS A LOCAL ANESTHETIC

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ROGER B. BREWSTER, M.D.
AND
FORD B. ROGERS, M.D.
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In September, 1907, Dr. Henry Thibault,[1] of Scotts, Ark., published a short article calling attention to the local anesthetic effect of quinin and urea hydrochlorid. He recommended the use of a 1 per cent. solution for local injection and from 10 to 20 per cent. for local application to any mucous surfaces. Aside from this article by Dr. Thibault and one by E. J. Brown,[2] recommending its use in tonsillectomy, we have been unable to find any account of the use of these substances for anesthetic purposes in the literature.

For some six months we have been using this drug instead of cocain in all local anesthesias with the greatest satisfaction. So great has been the interest manifest in our studies by our professional friends that we have deemed it best to report our results up to date. Clinical experience was obtained in our private practice and by one of us (Rogers) at the dispensary of University of Kansas. The experimental work was done in the laboratory of the Halstead Hospital (Hertzler).

We started with the 1 per cent. solution recommended by Dr. Thibault. We found, as stated by him, that a perfect anesthesia is obtained which lasts from 4 to 5 hours. The anesthesia is more complete than with cocain. We soon discovered, however, that disturbances in skin union sometimes occurred. One of us (Hertzler) noted particularly that in hernia operations there was some disturbance in the healing of the skin wound which had not been noted after the use of cocain. The disturbance was not great, but the patient had to be kept in bed longer than after the cocain operation. The edges of the wound were indurated and thickened, but there was no pus formation. The thickening appeared to be due to cellular infiltration.

Hertzler thereupon undertook to determine experimentally the cause of the induration. Experiments performed on rabbits showed that the thickening was not due to cellular infiltration at all as was supposed on clinical grounds, but was due to a pure fibrinous exudate free from cells. This exudate was proved to be fibrin by Mallory's and Weigert's stain. The reaction appears, therefore, to be purely chemical in nature. The exudation of the fibrin begins to appear within a few minutes. In a general way it was determined the amount of exudate depends on the strength of the solution used; the attempt was made, therefore, to determine a strength of solution which would not cause this exudation of fibrin. In ½ per cent. solutions the exudate is less than with 1 per cent. and with ¼ per cent. solutions only traces can be discovered. To what extent this fibrinous exudate is subsequently converted into fibrous tissue has not yet been definitely determined, but apparently nearly all is absorbed.[3]

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[1] A New Local Anesthetic, Jour. Arkansas Med. Soc., September, 1907.

[2] Quinin Anesthesia, Painless Tonsillectomy and Adenectomy, THE JOURNAL A. M. A., Aug. 8, 1908, li, 496.

In order to determine the subjective sensations of the injection and to determine the question of a possible zone of hyperesthesia about the anesthetized zone, one of us (Hertzler) studied the effect by the injections in the skin of his leg. Injections of 1 per cent., ½ per cent., ¼ per cent. and 1/6 per cent. solutions and an injection of plain water as controls were used in each series. The 1 per cent. and ½ per cent. solutions gave immediate and complete anesthesia without a particle of pain during its introduction. Within a few minutes there was a distinct induration. With the ¼ per cent. solution, anesthesia was not complete for a few minutes, but was then as complete as after the use of the stronger solutions. The 1/6 per cent. solution gave delayed anesthesia, but after a few minutes was complete. In neither of these weaker solutions was induration noted on palpation. The water control caused intense pain on injection, and the anesthesia, at no time perfect, lasted only a few minutes. There was a zone of hyperesthesia one or two inches in width about the area injected. Curiously enough the hyperesthesia seemed to be for touch and not for pain.

The duration of the anesthesia in the 1 per cent. and ½ per cent. solutions was perfect for 4 or 5 days, and sensation in the ½ per cent. strength was not restored to any great extent for 10 days, and in the 1 per cent. solution sensation was not completely restored after 2 weeks. At no time was there the least pain, though the induration about the 1 per cent. and ½ per cent. solutions was yet marked at one and two weeks, respectively.

The above observations were made with the solution of the quinin in water. When physiologic salt solution was used as the solvent, the induration was little or not at all marked, but the duration of the anesthesia was much lessened. Hypotonic and hypertonic solutions also were used without notable variation.

The result of this experimentation indicated that the delayed skin union above noted was due to fibrinous exudate. This was present in 1 per cent. and the ½ per cent. solutions, but not in the ¼ per cent. solution to any notable degree. The ¼ per cent. solution seemed, then, on laboratory grounds, to be the strength most desirable for anesthesia in the class of work where speedy primary union of the skin is desirable and where duration of anesthesia beyond several hours is not required, and clinical experience seems to bear out the laboratory determinations.

Any operation ordinarily done with cocain can be done with quinin. The technic of its use is the same. As in the use of cocain, only those tissues known to be sensitive should be injected. In clean tissue the ¼ per cent. solution seems to be strong enough to produce anesthesia lasting several hours. In regions where primary union is not necessary, particularly in tissue the seat of inflammatory reaction, the stronger solutions are more satisfactory. In the opening of abscesses, for instance, and operations for anal fistulas, hemorrhoids, etc., the stronger solutions are the ones of choice. In regions in which operation is attended by hemorrhage, too, notably tonsillectomy, turbinectomy, etc., the 1 per cent. solution, or stronger (3 per cent., Brown), is the solution of choice. The stronger solution is desirable here because of the hemostatic effect exercised by the fibrinous exudate. The exudate being fibrin in the strict chemical sense, the usual natural processes of hemostasis are anticipated. The coagulum occurs, it is true, *about* and not *in* the vessels, and their occlusion, therefore, results from pressure from without. The important point, however, is that the effect lasts from 7 to 14 days, a time abundantly sufficient to allow healing by granulation to become well advanced. This is in marked contrast to the ephemeral influence of cocain and adrenalin, which act only by causing a contraction of the muscular walls of the blood vessels.

We have done the following operations, among others, under quinin anesthesia: drainage of the gall bladder, drainage of appendiceal abscesses, exploratory laparotomies, hernias, castrations, varicocele and hydrocele operations, etc., and the removal of all sorts of tumors ordinarily undertaken under cocain.

We desire particularly to emphasize the value of this anesthetic in two operations: In operations about the anus it is for us the anesthetic of choice. In both fistulas and hemorrhoids, any of the radical operations can be performed with the same thoroughness as under a general anesthetic. The advantage consists in that the duration of the anesthetic is from 7 to 10 days, which does away entirely with the after-pain ordinarily attending these operations. In tonsillectomy the results have been equally satisfactory. For this operation a large amount of the solution is injected about the tonsil between it and the faucial pillars. This forms an artificial edema about the tonsil which much facilitates its removal. An unlimited amount of solution may be used with impunity so that a satisfactory anesthesia can be easily secured. Because of its safety both tonsils may be operated on at one sitting. The absence of after-pain is as desirable here as following an operation about the anus.

As a local application about the eye we have no experience, but turbinectomies and septal spur operations have been done with a fair degree of satisfaction when the drug was used as a topical application. For local application the strength must be from 10 per cent. to 20 per cent., as correctly stated by Thibault. When the solution is injected beneath the mucosa, however, anesthesia is perfect and hemorrhage slight. It is interesting to note that Fulton[4] used quinin as a local application to the nose in hay fever.

In the bladder as a preliminary to cystoscopy the result has been very satisfactory. A solution of from 10 per cent. to 20 per cent. is used and allowed to remain from 20 to 30 minutes. The only objection to this solution is the difficulty of removing the precipitated flocculi from the bladder after the anesthesia is complete. These flocculi work no further mischief than to obscure the vision.

The chemical used is the quinin and urea hydrochlorid. For extensive operations about the rectum and throat two 2-grain tablets are dissolved in an ounce of plain sterile water. An ordinary glass hypodermic syringe is used. In cases in which relatively short anesthesia only is required and where a prompt union of the severed surfaces are desired, a 1/4 per cent. solution seems to be the solution of choice. It is unnecessary to distend the tissue. The fluid should be injected slowly under light pressure into the area to be anesthetized. The production of edema is unnecessary and should be avoided except in cases in which the edema facilitates technic (tonsillectomy, removal of encapsulated tumors). Those who have a finished technic in the use of other local anesthetics will experience no difficulty in the use of quinin.

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[3] Noting the occurrence of induration after the injection of quinin J. J. Parsons (Practitioner, London, March, 1909) used this drug by injection into the connective tissue *lateral to the uterus* for prolapse. Our researches would seem to raise the question whether the results could be other than temporary.

[4] The Local Use of Quinin in Hay Fever, The Journal A. M. A., July 30, 1904, xliii, 325.

The advantages of this anesthetic over cocain and its congeneras are as follows:

1. Its absolute safety. One of us (Brewster) has used as much as 100 grains intravenously in 6 hours in pernicious malaria with the recovery of the patient.
2. The duration of the anesthesia. The after-pain in certain wounds is avoided.
3. The hemostatic effect.

FOREIGN BODY IN THE RECTUM

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History.—Mr. J. L. was admitted to the City Hospital in June, 1909. He had been drinking heavily for four days, and on an evening went to a wood beside a railroad, where he lay on the ground, falling asleep and not waking until morning. He found it impossible to empty the bowel on account of an obstruction and pain. There was a beer-glass in the rectum about seven inches in circumference at the larger end, a little more than four inches in length and conically shaped. He applied for help to a physician who attempted to remove the glass, without divulsion, with forceps. The attempt failed and the glass was broken.

He was admitted to the hospital about 3 p. m. and the glass was removed about 5 p. m. The smaller end had been introduced first, and when seen at 5 p. m. was resting up about the promontory, the larger end, a segment of which had been broken out in the effort at removal just mentioned was imbedded in the hollow of the sacrum, the cutting edges being buried in the soft tissues.

Operation.—The edema and swelling, the contraction of the levators and sphincters from traumatism were such that thorough divulsion was insufficient for removal. The muscles were divided in the median line posteriorly sufficiently to effect the removal of the glass and on account of the extensive swelling and edema, and the presence of an ichorous discharge of bad odor the wound was not stitched but left to heal by granulation as in posterior proctotomy for stricture.

When the patient was discharged he had perfect control.

The shape, size and nature of the foreign body, the edema, swelling and general condition of the tissues from traumatism will be the guiding indications for the course to pursue in its removal.

If the foreign body be glass with cutting edges, much damage, which may be fatal, may follow injury to the soft tissues of the rectum or pelvis. There should be great care that a harmless body with smooth edges may not, through efforts at removal, be converted into a dangerous one with cutting edges by breaking.

It would certainly seem a rare instance in which amputation of the coccyx was necessary for the removal of a foreign body from the rectum having been introduced through the anus.

The adequate division of the muscles posteriorly and a quick removal of the object without injury is advised in lieu of prolonged efforts at removal of an object with cutting edges from which fatal wounds may result.

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PLACENTA PRÆVIA AND VAGINAL CESAREAN SECTION

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During the past few years opinions regarding the treatment of placenta prævia have undergone a radical change. Whereas until recently we were taught to overcome this dangerous complication of pregnancy or labor by a slow dilatation of the cervix followed by a Braxton-Hicks podalic version, or even by the now obsolete *accouchement forcé,* some modern obstetricians resort now to a more surgical treatment of this alarming condition.

There is still an ardent controversy as to the details of the treatment of placenta prævia in gravidity or at full term. Most of the German writers favor the method of tamponing the bleeding part by introducing the Champetier de Ribes bag, while only a few follow the American authors, who are mostly in favor of the classical Cesarean section in this condition. Some German writers (Frank, Sellheim, Krönig, v. Rosthorn, etc.) are strong advocates of the so-called extraperitoneal Cesarean section. These points, however, are of minor importance. Most authors of extended experience condemn the vaginal Cesarean section in cases of placenta prævia on account of its dangers, especially for the mother. When there is a central implantation of the placenta the vaginal route is no doubt dangerous, for by cutting into the uterine tissue the bleeding may be augmented instead of checked. In my opinion, however, there are certain cases in which the vaginal method is justifiable because it enables the obstetrician to become master of the situation quickly and safely. I have in mind those cases of lateral placenta prævia in which we are forced to rapid interference and in which we are sure beforehand that we can avoid the placental insertion.

The following case is illustrative:

History.—Patient, Mrs. B. C., aged 38, viii-para. Family history negative. Patient was always well up to the present time. She menstruated first at 16 years of age, was always irregular, every four to six weeks, and the flow was always accompanied with pain. She last menstruated on Oct. 18, 1908. She has had four normal deliveries and two instrumental ones. She can not tell what kind of instruments were used. She has had one miscarriage. The present pregnancy was uneventful up to July 6, 1909. On that day she began rather suddenly to bleed profusely and continued bleeding at brief intervals up to July 9. On July 7 the membranes ruptured. Due to the amount of blood she had lost there was occasional syncope on July 8 and 9. She was examined several times by a midwife and later by two physicians who sent her to the hospital, where I saw her first on July 9.

Examination.—At that time she was in a critical condition. Her temperature was 101.4 F., her pulse could hardly be felt, it was weak, and 128 per minute. She was in an extremely anemic condition. There was air-hunger and dizziness. She bled profusely from the vagina. As the condition was so alarming there was no time to be lost in examining the different organs, but she was put at once on the operating table and after a careful local examination it was determined to make an attempt to control the hemorrhage.

Local Examination: There was an old perineal tear of the second degree. The vulva was widely open and the vagina filled with fresh blood clots. The portio was 3 cm. long and rather rigid. One finger could be passed through the cervical canal beyond the internal os. In the cervical canal a soft, profusely bleeding mass could be felt, which was attached to the right lower part of the uterus. The anterior, posterior and left side of that portion of the uterus was perfectly free. The head of the child could be felt above the pelvic inlet. The fetal heart sounds were heard on the left side at a point midway between the umbilicus and the left anterior superior iliac spine. The frequency was 120 per minute, the action regular. At the termination of the examination some meconium was seen in the vagina.

Diagnosis.—Lateral placenta prævia, extensive hemorrhage.

Treatment.—Immediate delivery by vaginal Cesarean section. A longitudinal incision was made on the posterior wall of the cervix. The peritoneum was pushed out of the way and the posterior wall of the cervix as well as the lower posterior wall of the body of the uterus were bisected up to 3 cm. above the internal os. It seemed inadvisable to bisect the anterior wall of the cervix and uterine body as directed by Dührssen, as the condition of the patient was very poor and haste was imperative. The above-described mode of procedure, however, (Döderlein's modification of Dührssen's method) was sufficient, as it was an easy matter to introduce the whole hand into the uterus and to perform podalic version. The extraction of the child was easy with the exception of the head, which was delivered with difficulty. The child was born in a state of pallid asphyxia. In spite of the employment of all the different methods of resuscitation for about one hour I did not succeed in reviving it. The placenta was removed and the wound in the uterus closed by eight sutures of chromicized catgut.

During and after the entire operation the patient was actively stimulated.

Result.—The patient recovered rapidly. The second day after the operation her temperature was normal and the pulse was 88 per minute and full. The puerperium was uneventful in every respect. On the fifteenth day the woman left the hospital in perfect condition, though still somewhat anemic. The uterus was normally involuted, and the wound in the posterior wall of the uterus had healed primarily.

Every case of placenta prævia which has been treated by one of the newer methods should be reported in order that the general practitioner, who is most apt to deal with this dangerous complication of pregnancy or labor, may know how to treat those cases most successfully. Through reliable statistics we know that this complication occurs once in about 250 or 300 labors. The average maternal mortality is 10 per cent., whereas the fetal mortality is as high as from 70 to 80 per cent. These anything but ideal results were obtained by the routine methods of the past. The procedures were mainly: dilatation of the cervix by the metreurynter or the colpeurynter, tamponade of the vagina or even the cervix, or the performance of podalic version (Braxton Hicks), with or without perforating the placenta. *Accouchement forcé*, as I stated above, is practically obsolete. All these methods are in no way perfect, as the maternal as well as the fetal mortality is much too high. The only method that gives better results, as statistics show, is the Cesarean section, either the classical, the extraperitoneal or the vaginal. (With another method, introduced by Miller of Pittsburg, I have had no experience. In cases of central placenta prævia he ligates the uterine artery on either side through the vagina, and then, after having controlled the hemorrhage, he proceeds slowly with the delivery.)

G. T. Harrison, in a paper on "Indications for Cesarean Section in Placenta Prævia," read at the meeting of the American Gynecological Society in 1909, said that, while it is true that in the majority of cases of placenta prævia occurring in private practice the obstetric resources at our command, including manual dilatation, balloon dilatation and version are amply sufficient, there still remains a class in which the performance of Cesarean section, whether vaginal or classical, might well merit serious consideration. The cases referred to are those in which dangerous hemorrhages occur, while at the same time the cervix is preserved in its entire length. The classical Cesarean section should be reserved for cases in which the vaginal procedure is excluded as, for example, contracted pelvis.

Bumm, who probably has had the largest experience with vaginal Cesarean section in placenta prævia, is an ardent advocate of this method. As far back as 1905 he said that during the operation he has constantly the feeling of full security against loss of blood and he believes that the vaginal hysterotomy in women who have already lost much blood at the beginning of the dilatation may be effective in saving life. At all events, it is superior to the abdominal Cesarean section in the smallness of the wound and to all dilatation procedures in the certainty of arrest of hemorrhage.

Baisch also holds the same opinion, which he bases on 10 cases of placenta prævia. There are a few more successful cases reported by Dührssen (the originator of the vaginal section) and by Everke.

In my case I had to do a quick and at the same time safe operation. Classical Cesarean section was out of the question, as the patient had a temperature of 101.4° F. and had been examined vaginally several times before I saw her. The extraperitoneal operation was also excluded in this particular case, as I had to choose the quickest way to deliver the patient and this is, by all means, the vaginal route. It is surprising—as I previously stated in another publication[1]—how easily this operation can be performed and how insignificant is the hemorrhage from the wound. With few exceptions all the writers on this subject admit this. In my case, also, I was astonished to see that the patient lost no blood to speak of. The whole operation was performed in eight minutes, as I decided to do only a posterior incision to save valuable time. I am aware that the result is by no means ideal so far as the baby is concerned, as we could not revive it after an hour's effort. I succeeded, however, in saving the mother's life.

In conclusion, I would suggest that in similar cases this mode of procedure be used, particularly as the general practitioner who has had some surgical experience and who has at least one competent assistant at hand may be able to perform the operation even under unfavorable conditions. This operation enables one to open the uterus enough to permit delivery along the normal passages, without loss of time, in a clean-cut surgical way, and at any moment during pregnancy or labor.

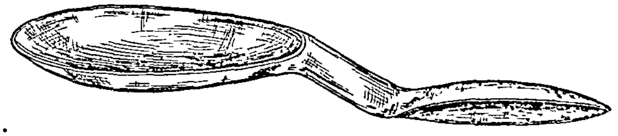
1 West Eighty-fifth Street.

A VISCERA SPOON

DAVID O'SHEA, M.D.

CHICAGO

The instrument which I have devised and which is here illustrated is intended to protect the viscera during operations. It is made of heavy block tin, is about eight inches in length and consists of two spoons of different sizes, having their concavities facing in opposite directions and connected by an isthmus that runs obliquely. The larger spoon is four inches long and one-half inch in depth, the smaller one being about half that size. The instrument is now in use at Mercy Hospital, Chicago, and has proved a practical device.



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[1] Operative Tendencies in Modern Obstetrics, Medical Record, March 7, 1908.

A CASE OF DIVERTICULUM AT THE PYLORUS *

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BUFFALO

History.—The case I have to report is that of a young man, aged 21, a college student in Toronto, who came to see me first on Sept. 22, 1894. His father and mother were living, the latter being of extremely nervous temperament and having had recurrent stomach trouble for some years. At the age of 18, the patient had experienced attacks of severe pain in the stomach after meals and when he saw me first, he complained of pain about two inches above the umbilicus, radiating a little to the left. There was no history of vomiting of blood. The thoracic organs were normal. He had a slight astigmatism with, at times, a trifling headache. He was cheerful and slept well. His appetite was very good and craving at times. His pain between meals was relieved by rest and milk and cream, egg or ice-cream. On examining his stomach, free hydrochloric acid was found present and after considerable retching there came through the stomach-tube a small quantity of blood-stained water and a fragment of mucous membrane, 1½ cm. long by 1 cm. wide which was soft and friable and studded with dark extravasations, such as is sometimes found with gastric erosion or torn off by rough handling or suction of the stomach-tube. He was constipated; his urine was normal; he gave no specific history. There was no food stagnation. His symptoms abated and he improved on alkaline gastric sedatives with nux vomica, physostigma and stillingia. He came to see me again in 1905, four months after his appendix had been removed. He then complained of pain in his stomach which sometimes induced vomiting. The total acidity of his gastric contents was 60; free hydrochloric acid, 10 per cent. Acid salts, 12; combined chlorids, 20; biuret, present; rennet, present; erythrodextrin, +. Microscopic examination, negative. His stomach was empty before breakfast. Two days later, four and one-half hours after Riegel's test meal, there was some mucus present; a total acidity of 30; free hydrochloric acid, 0.09 per cent. He returned home and on rest, fresh air and tonics, improved very much. In September, 1906, he came back complaining of vomiting and gastric pain, flatulency and loss of weight. Again in May, 1908, shortly after returning from England, he came with gastric symptoms similar to those he had presented in the past.

Operation.—Dr. Cornell, of Brockville, Ontario, being present and concurring, on Nov. 25, 1908, Dr. Carlton C. Frederick operated and reports the following: There were adhesions found about 2 cm. in diameter, about 4 cm. from the pylorus on the anterior stomach wall, between it and the transverse colon and gastrocolic omentum. The adhesions were broken up and the denuded surface closed over by fresh peritoneum. Between this point of adhesion and the pylorus, just inside the pyloric ring on the stomach side, was a diverticulum consisting, apparently, of serous and mucus membranes only. To remove this diverticulum necessitated doing a modified Finney operation. The modification consisted in bringing the duodenum farther forward than in the ordinary operation for pyloroplasty, and after the first line of sutures, which are usually passed through the peritoneum, instead of making the horseshoe-shaped incision the diverticulum was excised, and from its upper curve the balance of the necessary horseshoe-shaped incision was carried beyond the pylorus down to a sufficient distance in the duodenum. After the operation was completed, the duodenum lay in front of the anterior wall of the pyloric end of the stomach instead of in the usual position after a Finney operation, along the subpyloric curve.

Postoperative History.—Since the operation the patient has gradually improved and now weighs 136 pounds. When he left the hospital his weight was 104. He makes no complaint of his stomach and says he feels better than he ever did.

The interesting points about this case are, first, that it is probable that the patient had a gastric ulcer at the age of 18; that this ulcer destroyed the muscular coat of the stomach, and that in healing this coat was not restored, but the pyloric wall in that region consisted chiefly of the serous and mucous coats, the latter having undergone regeneration. This thin and weak portion of the pylorus gradually stretched and formed a diverticulum. As a rule, gastric ulcer at or near the pylorus gives rise to cicatricial contraction, with more or less stenosis following, but in this instance such was not the case.

The second point of interest simply consists in the illustration that this case affords of the fact that cases of long-standing gastric complaint often show organic disease of the stomach or adnexæ. The examination of the gastric contents showed a variable chemistry in this case, and revealed also an unstable motor condition.

During the years between 1893 and 1908 the patient was a gastric semi-invalid, and his tolerance of the organic change in and near his pylorus was insufficient to maintain him in vigorous resistance and health, probably owing to his temperament and a delicate physique. His gastric symptoms consisted usually of a combination often present in gastric neuroses, which emphasizes once more the clinical fact that some or all of the symptoms of the gastric neuroses may exist with structural alteration and that operation, which should have been done earlier in this case, affords the only relief or cure for such structural change.

In the causation of this patient's symptoms, the perigastric adhesions may have been chiefly instrumental, although it is impossible to estimate the degree of disturbance caused by the deformity of the pylorus, the caliber of which was ample.

436 Franklin Street.

ABSTRACT OF DISCUSSION

Dr. Charles G. Stockton, Buffalo: This seems to me to be a very unusual case. So far as I know, this is the only instance in which a diverticulum has appeared in that region and the only instance that I know of what undoubtedly was a gastric ulcer so destroying the wall of the stomach as to result in a diverticulum. Those two facts appeared undoubtedly in the case reported by Dr. Jones.

Dr. Allen A. Jones, Buffalo: This diverticulum was two and a half centimeters (2.5 cm.) in depth. It had pressed on and dilated the pyloric ring, really involving a part of it. It also dilated the duodenum two centimeters (2 cm.) beyond the ring. With this pressure in the antrum pylori one can readily understand how it would become a condition that would be a symptom producer. It is impossible for us to say now how much perigastric adhesions had to do with the causation of the symptoms, or how much the deformed condition of the pylorus was to blame.

THE USE OF BISMUTH GAUZE IN GYNECOLOGIC WORK

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NEW YORK

Some substitute for iodoform gauze has long been needed in vaginal work. One of the most important functions of gauze impregnated with iodoform, or one of its derivatives, is to deodorize the accumulating secretions, which become very foul under the action of the ever-present saprophytic organisms. It is frequently necessary to leave gauze in the uterine cavity and vagina for from two to five days, and such gauze, if unmedicated, soon becomes exceedingly foul-smelling and offensive alike to the patient and to those around her. In addition, the presence of decomposing material has a most unfavorable influence on the smooth healing of wounds. Iodoform gauze, unless it be very strong, is little better than plain gauze in this respect. It may remain fresh and sweet for forty-eight hours, but if left *in situ* any longer it becomes very fetid, especially in the presence of the increased secretion stimulated by the irritating presence of sutures in the vagina. The odor of iodoform itself is objectionable to many people. In addition, one is never certain that, given a raw area and a duly susceptible patient, symptoms of iodoform poisoning will not supervene. Moreover, the iodoform gauze as put up in sealed tubes for use in private practice is quite expensive.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

For the past four months, in the gynecologic service of Dr. Florian Krug at Mount Sinai Hospital, we have been using gauze impregnated with subnitrate of bismuth, with highly satisfactory results. It is prepared by taking 2 ounces of bismuth subnitrate, 2 ounces of glycerin, and 1 quart of water. The bismuth and glycerin are very thoroughly mixed, warm water is gradually added and the mixture is continually stirred so as to make a fine emulsion.

A portion containing about 21 yards of gauze is passed slowly through the emulsion three times so that it becomes thoroughly soaked, and is then wrung out. After the gauze is dried it is cut into strips of desired size, loosely packed, and sterilized by steam at seven or eight pounds' pressure for thirty minutes.

The above strength has proved sufficient for our purposes; it could be considerably increased without harmful effects should the occasion warrant it.

The gauze so prepared is snowy white in color, odorless, soft and smooth. There are no grains of powder macroscopically visible on it. From plain unmedicated gauze it differs only in its intense white color and in being smoother and softer to the touch. From iodoform gauze it differs in being odorless, absolutely non-toxic in the quantity used in any one case, much softer, less irritating, and less expensive. (Bismuth subnitrate is from 30 to 40 per cent. cheaper than iodoform.) Finally, it is far more efficient in its action.

I have used it in a great many cases, and have found that after incomplete abortions, curettages, plastic operations on the cervix and vagina, and aseptic vaginal celiotomies, it can be left in the vagina for a week, if desirable, and on removal it is still perfectly sweet and odorless.

The mucosa is pale and unirritated, and there is none of the stench so distressing to the patient and all concerned. The advantages are obvious.

It should be noted that the gauze has not the power of deodorizing foul-smelling pus. When, for instance, a pelvic abscess containing foul-smelling pus is opened and drained by a postvaginal section, the gauze has little or no power to mitigate the fetor. In aseptic cases we have, after extended trial, found it almost ideal and can heartily recommend its use to others.

Its uses in other fields of work will readily suggest themselves.

67 West Eighty-ninth Street.

Cow's Milk.—Cow's milk is the only food supply apart from mother's milk available in this country, from a practical standpoint, for the nourishment of infants under 1 year of age. It forms, besides, a large part of the dietary of older children and of many adults. It is consequently of the utmost importance, in view of its perishability, that it should only be used as a food under conditions which will insure its wholesomeness.—J. W. Schereschewsky, in *Annals of Medical Practice.*

SARCOMA OF THE TONSIL

REPORT OF A CASE, WITH REMARKS ON THE TECHNIC OF THE OPERATION *

JOHN E. SUMMERS, M.D.
OMAHA

The relative infrequency of sarcoma of the tonsil and the apparent hopelessness of the patient prompt me to write this paper.

History.—E. M., Wood River, Neb., Dane, aged 48, farmer, single. Family history negative; no history of injury; no previous history of sickness that would have any bearing on present condition. The patient entered Omaha General Hospital, Jan. 6, 1908, with the following story: In June or July, 1907, he noticed a slight "fulness" or "swelling" of the left tonsil; not enough to trouble him particularly, and not enough to have remembered, had not subsequent developments caused him to recall early symptoms. This condition continued until the early part of November, 1907, the "fulness" and "swelling" gradually but slowly becoming more pronounced. From November until the time of presentation for assistance, the swelling had enlarged quite rapidly, and worried the patient a great deal. At no time had he detected enlargement of any of the cervical lymph nodes, and at no time did he suffer from pain.

Examination.—The patient was pale and had an anxious expression. Examination of the throat showed an enlargement of the left tonsil to such extent that it almost filled up the pharynx, there being only a narrow chink between the right tonsil, the right pillars of the fauces, and the border of the new growth. There was an ulcerated necrotic area of the tumor, about the size of a quarter, which had ulcerated through the soft palate to the left of the median line. The jaws could not be widely separated; the tumor could be distinguished below the angle of the jaw, and a few enlarged lymph nodes could be felt below the tonsil in the carotid triangle. The man had been refused operation by several surgeons, as the growth was considered too advanced to make the hazard of operation justifiable.

First Operation.—After the usual preliminary antiseptic treatment of the mouth and throat, the patient was operated on, Jan. 9, 1908. Briefly, the technic employed was: (1) ether anesthesia, ligation of the left external carotid artery, and (2) a prophylactic laryngeotracheotomy (division of the cricoid cartilage and the upper three tracheal rings). The cricoid cut being held wide open, gauze was packed into the wound above the tube, to prevent leakage of blood into the bronchi. The anesthesia was continued by having a piece of cotton clamped in a forceps kept moist with chloroform and held over the opening in the tracheal cannula—my usual technic whenever I am doing extensive bloody operations about the throat, as, for instance, for malignant disease of the tongue and floor of the mouth and larynx. With the head and shoulders elevated, the cheek was split from the angle of the mouth to the angle of the jaw, joining a curved incision around the angle of the jaw. The jaw was divided. The wound was widely retracted and there was no difficulty in excising the soft palate and in enucleating the tumor, which was distinctly encapsulated. The wound was closed in inverse order to the method of making it, the mouth being shut off from the wound cavity by suturing in such a way as practically to limit the drainage through the external wound.

Convalescence was uninterrupted, but slow because of the man's run-down condition. At the end of six weeks a Crile block operation was carried out; union was *per primam* and the man returned home and renewed his occupation of a farmer.

Second and Third Operations.—Feb. 6, 1909, the patient returned with a recurrence at the site of the tonsil. This was removed through an external incision without opening the mouth, and again, April 27, the same kind of recurrence and the same kind of a removal.

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* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

The man is now in good condition. He has no pain and has a good appetite. Had he not been operated on in January, 1908, he would have been dead more than one year ago. He is not cured, but even now the outlook is not hopeless.

Pathologic Report.—Dr. Paul G. Woolley describes the tissue from the tonsil, removed at operation, as follows: "Celloidin shows that the tissue is composed of a very cellular growth made up of polymorphous cells, thin-walled blood vessels and vascular spaces, and supplied with a well formed intercellular reticulum. One portion of the tumor, that forming an ovoid nodule, is somewhat edematous, and is more richly supplied with vessels than is the deeper layer, which is composed of a more compact mass of cells. Running in all directions in the former portion are strands or columns of spindle-cells, between which lie the polyhedral cells that immediately surround the vascular spaces in such a way as to suggest a perithelial origin. This is, however, I believe, merely a suggestion, for in the more cellular parts there is no such indication of vascular origin. The tumor is a sarcoma composed of polymorphous cells."

My special object in directing attention to the surgical technic in attacking tumors of the throat is to emphasize the importance of two points, viz., early diagnosis, and the thorough, radical removal of the growth together with the lymph nodes, whether apparently healthy or diseased. I advocate most strongly, for the throat and neck, the kind of operative attack which has added so many years to the lives of sufferers from cancer of the breast. Prior to the general adoption of the Halsted operation for cancer of the breast, almost every patient suffered a recurrence and died. The percentage of cures following operation for malignant disease of the tonsil is necessarily lower than in cancer of the breast because of the more early lymphatic involvement; yet statistics in this operation will improve when an adoption of the "block" technic of Crile is more general. Crile, in speaking of this, makes a comparison of the results in his own practice in a series of ninety-six cases of malignant disease of the type under consideration, i. e., cancer of the neck and throat, the operation being done under usual methods, giving a three-year limit; over 28 per cent. of the patients remained free from recurrence.

In a series of thirty-six operations under the "block" system, 52 per cent. of the patients are living and free from recurrence.

In considering the mortality of the operation for removal of malignant growths of the tonsil, we must first remember that the early diagnosis, when the neoplasm is confined to the tonsil itself and has not spread to contiguous parts (as the base of the tongue, palate, pillars of the fauces, upper part of the larynx, the pharynx) is the key to the prognosis. In epithelioma this spreading is very rapid, and in sarcoma of the small-celled variety almost equally so. In the other sarcomata, there is little disposition to spread early; in fact, the growth may for some months be encapsulated, and it is in this variety that glandular involvement is also much later manifest.

Mr. Butlin gives the histories of fifty-four patients' cases on whom operations of various severity were performed.

Died of the operation	14
Alive or dead with recurrence (in mouth or glands)	20
Died of cancer elsewhere	3
Well from one to three years	8
Well more than three years	9
Total	54

These statistics are most encouraging, as all previous work had been extremely discouraging, nearly all cases having proved fatal as in the earlier operative treatment of cancer of the breast. Now, if we can add the additional improved technic of the "block" operation applied to malignant disease of the tonsil, diagnosed early, the outlook will be still more encouraging. It is only essential to mention the lines of attack.

1. Through the mouth.
2. By incision in the neck—lateral pharyngotomy.
3. Combined operations, through the mouth by splitting the cheek, and lateral pharyngotomy.
4. Median or trans-hyoid pharyngotomy. Lateral pharyngotomy. Division or resection of the jaw. Ligation external carotid. Tracheotomy. Combined operation or removal of the glands two weeks to two months later.

I agree with Mr. Childe, that the tonsil should be dealt with first, after ligation of the external carotid. If the reverse procedure is carried out and the "block" operation is performed on the lymph nodes first, the resultant scars may obliterate the anatomic guides to such a degree as to render exceedingly difficult the attack on the tonsil by means of a pharyngotomy.

Fifteenth and Dodge Streets.

ABSTRACT OF DISCUSSION

Dr. Miles F. Porter, Fort Wayne, Ind.: I have had one unusual experience in dealing with malignant disease of the tonsil, involving the fauces. The case was apparently hopeless, but the individual is now symptomatically cured as a result of the combined use of the toxins and the injection of boiling water.

This shows that there are patients who are beyond hope of cure by radical operation who can be relieved and occasionally cured by the use of boiling water and the toxins.

Dr. H. S. Wieder, Philadelphia: Dr. Summers' paper brought out two points, especially with reference to sarcoma of the tonsil.

First, in sarcoma of the tonsil, not following the usual rule of sarcoma, there is almost invariably involvement of the lymph glands below the jaw and down the side of the neck. That is in opposition to the usual course of sarcoma, which usually travels by way of the vascular system. The tonsil being a part of the lymph system and being rich in lymphatics which empty into the lymph vessels of the neck, early metastasis to the neck takes place.

The second point I refer to is the fact that there are early recurences in sarcoma. If the recurrence does not take place within a year or two, one can feel a comparative amount of safety, although one case has been reported in which recurrence took place as late as nine years after operation; this is the exception, however. In carcinoma one cannot feel safe, even after the lapse of three years.

Dr. J. E. Summers, Jr., Omaha: Dr. Wood had two cases, but they were of a different type from mine; in fact, I could not quite see some of his points; therefore, I was unable to use his work. Dr. Warren read a paper at the International Congress of Surgery, at Brussels, in which he collated all the cases of cancer of the floor of the mouth, tongue, tonsil, etc., that occurred in the Massachusetts General Hospital during a number of years. There were four cases of sarcoma of the tonsil, and all the patients died. The point I wanted particularly to bring out was that we must make an early diagnosis and operate promptly.

Books on surgery and laryngology do not say how to make the attack. To prevent a recurrence of the growth the surgeon must do just as he would in cancer elsewhere, e. g., cut out all the diseased tissue. Formerly we believed that cancer was a constitutional disease. Why? Because surgeons removed the breast and the tumor recurred. Therefore, it was a constitutional matter. Remove the local growth carefully; go away outside of it. Do a Crile block operation on the lymph nodes in the neck. In a case like mine, considering how much has been accomplished by this method, I think that it is good practice.

Therapeutics

APPENDICITIS

The medical treatment of this inflammation is ever a subject for discussion, and there is an ever-varying opinion as to the best management before operation and when operation is inadvisable. In a series of essays on the subject which appeared in the *New York Medical Journal* from May 29 to June 19, 1909, inclusive, various treatments, and some diametrically opposed treatments, are described.

The consensus of opinion of the best management of appendicitis, at least the best composite opinion, as judged by the editor of this department, may be summed up under various headings as follows:

1. The most important of the treatments of this condition is rest, and that absolute. In most instances even arising from the bed for evacuation of the bowels, or for urination, should be prohibited. The position of the patient should be that in which he experiences the least pain.

2. The next important treatment is catharsis. There is a wide variance of opinion as to the advisability, value, or necessity of purging. If the patient is seen early in the disease, it seems that there can be but one opinion as to the advisability of removing feces, possibly retained fecal masses, and all sources of bowel infection, from the intestines in this abdominal inflammation, and in a patient who may be subjected to the necessity of etherization, abdominal operation, and subsequent intestinal rest. If the patient has been previously purged, or if diarrhea has occurred (although diarrhea may not remove all fecal matters), or if the patient is first seen after several days of the disease, the advisability of purgatives may be more carefully considered, and it may be deemed inadvisable to use them.

The cathartic selected should generally be a saline or castor oil. The saline may be administered in divided doses, or in one or two large doses, and the one selected should depend on the condition of the stomach; the pleasantest, if there is nausea and vomiting; Epsom salts, if nausea is not present. Castor oil may be given in elastic capsules, or with oil of wintergreen, saccharin, or black coffee, or in some other pleasant manner. The dose should be sufficient. Any excessive action of the bowels should be stopped by the administration of a small dose of morphin, and the intestines thus made empty and at rest, the condition desired in appendicitis.

3. As so well pointed out by Dr. George A. Graham, of Kansas City, Mo. (*New York Medical Journal,* May 29, 1909), many an apparently first-stage appendicitis is really an irritation and inflammation of the cecum, due to the stasis of food débris and fecal matters in this blind sac. Such a condition of the cecum will sooner or later cause appendicitis, if it is not already present. In either case, this stagnant, irritating, foreign matter, which may contain various fruit seeds or other indigestible material, should be removed by high colon washings, the patient lying with the pelvis elevated and on his right side. Even after previous purgation it is sometimes astonishing to find what substances such high enemas will bring away. The water should be used warm, and if deemed advisable warm olive oil injections may also be used. Such washings should be repeated until the water comes away clear. These enemas may cause some increased pain in the appendix region, but the subsequent improvement of the patient is often so rapid and so satisfactory that the treatment is justifiable and prophylactic.

4. While there seems to be a difference of opinion in regard to the application of the ice bag over the right lower quadrant of the abdomen in appendicitis, there is no doubt of its generally very great value. The bag of cracked ice should not be too full or too heavy, and the region of its application should be limited to the region of the appendix. In other words, the liver and diaphragm region should be protected from the action of the cold, and the same is true of the pubic region, by towels or flannel properly applied. While the cold applications may tend to cause contraction of the abdominal muscles, its action is soon sedative, and pain often ceases from this physical therapy alone. If the inflammation is not aborted in twenty-four or thirty-six hours, the time for the use of ice is past, and warm moist applications are then advisable to cause muscle relaxation and less tension over the inflamed region.

5. While morphin or codein are considered contraindicated by many surgeons, as tending to mask the pain and therefore the extent to which the inflammation has extended, there is no question that morphin, properly administered, in doses sufficient to stupefy the patient, are many times not only needed to prevent shock from the intestinal pain, but also to give not only rest and sleep, but especially intestinal rest, and by these actions it can aid in aborting the attack. As above stated, it seems unwise to give patients morphin when the intestines are loaded with fecal matters, but after such matters have been expelled, and there are no toxins or fermentative products in the gastrointestinal canal, the sedative action of morphin can do nothing but good. Pain alone is but one symptom in determining whether or not operation is necessary, and generally enough other symptoms are present to decide such a procedure as to preclude the necessity of allowing the patient to suffer pain. Also, pain long continued increases the probability of shock occurring after operation. Let it not be misunderstood that the dose of morphin should be large. It is astonishing at times how little is needed to quiet peristalsis and therefore to quiet pain. Sometimes 1/10 of a grain is all that is needed, best given hypodermatically. More often 1/8 of a grain is required, but it need not be repeated for hours; 1/4 of a grain at one time should not be administered in appendicitis, as it is not necessary. In a few hours the patient has come out of the sedative effect of the morphin, and if the pain is worse than before, or as bad, it is easily noted. If the pain is much less, the morphin has aided in causing such improvement.

6. There is a great variation in the opinion of physicians and surgeons as to whether food should be given by the stomach when it is attempted to abort an appendicitis. The advice varies from nothing at all by the stomach, not even water, to the administration of plenty of milk. The composite advice would seem to be that the patient should receive no real food for twenty-four hours, but water should be allowed, and best hot, or perhaps hot tea or hot bouillon. Hot drinks do not start peristalsis, which has been named as the objection to all foods or drinks by the stomach. If morphin has been administered, of course, it would inhibit peristalsis, and there is more necessity for water, or other bland liquid, to be administered to prevent nausea from the morphin which is excreted into the stomach.

7. It seems advisable to operate if, in from twenty-four to thirty-six hours:

(a) Pain has increased.

(b) There is much increased resistance in the right iliac region.

(c) The temperature is higher and the diagnosis is clear.

(d) The pulse is high, even if the temperature is low, especially if the facial expression is anxious—in other words, the peritoneal expression.

(e) If the leucocyte count is 18,000, or over, and another count in six hours shows an increase. The absence of leucocytosis, or a low white blood count, does not preclude the necessity of immediate operation. The conditions of fulminating appendicitis are almost like conditions of shock, and leucocytosis may not have had time or opportunity to develop.

(f) If there is a sudden subsidence of pain, and other symptoms show that the inflammation has not aborted, gangrene may be present, and the operation should be immediate.

If under any of the above-named conditions operation is refused, or if the general condition of the patient, or the presence of serious chronic disease, makes operation inadvisable, the treatment advised below should be inaugurated.

8. Operation may be deferred, if the above imperative symptoms are not present, even if the local induration and mass increases in size.

9. On the second day of the inflammation the diet may consist of two raw eggs, coffee or tea, meat juice, and plenty of water.

10. If the progress of the inflammation is toward recovery, on the third day more solid but easily digested food, as milk toast, oatmeal gruel, and poached eggs may be allowed.

11. If the patient does not improve and the inflammation is still active, the third day diet should be the same as that described under 9, i. e., the second day diet.

12. If a tumor mass has formed in the appendix region, tension of the abdominal walls may be relieved with flaxseed poultices, or other hot moist compresses.

13. If perforation seems likely and peritonitis imminent, and an operation is not allowed or not advisable:

(a) Put the patient in 45° upright position with the thighs well supported by pillows, as this position tends to cause drainage to the lower part of the abdomen and pelvic peritoneum, where less absorption is likely to take place than when drainage is toward the upper abdomen.

(b) Frequent high colon injections of physiologic saline should be given, and the colon not only gently washed, but the saline solution should remain in the colon to promote its absorption, as full blood vessels will prevent absorption from the seat of infection.

14. If signs of peritonitis are present:

(a) Continuous saline infusions into the colon by the Murphy method should be given. This is well described by Dr. John B. Murphy, of Chicago, in *Surgery, Gynecology and Obstetrics,* June, 1908. He believes that his method of administering saline solution, which he terms "proctoclysis," is such a factor in diminishing intoxication and in saving life that his description of the method should be given in his own words, viz.: "The fluid should be administered through a fountain syringe to which is attached a ⅜-inch rubber hose fitted with a hard rubber or glass vaginal douche tip with multiple openings. This tube should be flexed almost to right angles three inches from its tip. A straight tube must not be used, as the tip produces pressure on the posterior wall of the rectum when the patient is in the upright or Fowler position. The tube is inserted into the rectum to the flexion angle and secured in place by adhesive strips binding it to the thigh so that it can not come out; the rubber tube is passed under the bedding to the head or foot of the bed to which the fountain is attached. *It should be suspended from six to fourteen* inches above the level of the buttocks and raised or lowered to just overbalance hydrostatically the intra-abdominal pressure, i. e., it must be just high enough to require from forty to sixty minutes for 1½ pints to flow in, the usual quantity given every two hours. The fluid must be controlled by gravity alone. and never by a forceps or constriction on the tube, so that when the patient endeavors to void flatus, or strain, the fluid will rapidly flow back into the can; otherwise it will be discharged into the bed. It is this ease of flow to and from the bowel that insures against over-distention and expulsion on to the linen. The fountain had better be a glass or graded can so that the flow can be estimated. The temperature of the water in the fountain can be maintained at 100° by encasement in hot water bags. The fountain is refilled every two hours with from 1½ to 2 *pints of fluid.* The tube should not be removed from the rectum for two or three days." Under this treatment the blood pressure is restored to normal, thirst is quieted, and septic products are more readily excreted.

(b) Morphin should be administered in sufficient quantity to stop peristalsis.

(c) The daily diet should consist of several raw eggs, the juice expressed from a pound of chopped steak, and perhaps one or two cups of malted milk.

(d) Whiskey, or brandy, should be given in small amounts. Five drops of the tincture of strophanthus, or ten drops of the tincture of digitalis, may be given three or four times in twenty-four hours to aid the circulation in fighting the depression from the infection. After several days of high fever, however, such cardiac tonics as strophanthus and digitalis should ordinarily not be given.

(e) Strychnin should be reserved as long as possible, and can be given at such a time as digitalis and strophanthus are contraindicated, and its best action is produced by hypodermatic administration; 1/30 of a grain every six hours thus administered is as large a dose as should be used, and the frequency that should be used, except in an emergency. In other words, too much strychnin should not be given.

15. After complete recovery from a severe attack of appendicitis a child surely, and an adult generally, should be operated on; in other words, an operation during the interim, and one from which the mortality is perhaps less than 1 per cent.

16. If the patient is not seen until an abscess has formed, or until peritonitis is present, while the results of operation are doubtful, the danger of not operating is greater; hence operation should be advised.

Serotherapy of Metrorrhagia.—E. Nuñez states in the *Semana Medica*, June 10, that the success of serum injections in hemophilia suggested the possibility of influencing excessive menstrual hemorrhage by this means. Metrorrhagia of ten or fifteen days' duration seems to be common in his country, Argentina, in virgins or nulliparæ, with no discoverable cause for the excessive hemorrhage. Repose, a milk diet and ergot or other styptics do not seem to influence the hemorrhagic tendency in these cases, but benefit followed injection of 10 or 20 c.c. of antistreptococcus serum each month, for two or three months, the menstrual flow keeping thereafter within normal bounds. He cites a number of cases in detail. In one young woman the excessive hemorrhage ceased within twenty-four hours of the injection each time until normal conditions seemed to be permanently restored. The effect was equally marked in two multiparæ of 41 and 47, but no benefit was apparent in cancer cases.

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SATURDAY, OCTOBER 23, 1909

THE FREQUENCY OF TUBERCULOSIS IN MAN

A few years ago Naegeli aroused widespread interest by reporting that a careful examination of a large number of bodies had demonstrated the presence of evidences of tuberculosis in over 90 per cent. The findings attracted wide attention because they were so startling and because they justified the old axiom of "every one has a little tuberculosis," and so Naegeli's figures have been widely quoted and almost universally accepted. For the most part pathologists supported Naegeli's contention, for their experience in autopsy work had shown them that few adult bodies were free from calcified peribronchial glands, calcified nodules in the lungs, pleural scars and apical adhesions, which lesions are all suspicious, although not positive, evidence of healed tuberculous processes. General impressions are one thing and careful analysis of evidence is another, however, and as regards this very important matter of the tuberculosis morbidity, the former have been much more abundant than the latter. Burkhardt found in the material investigated at Dresden about the same high proportion of tuberculosis as Naegeli had found in Zurich, but by Lubarsch the occurrence of tuberculous lesion was placed at but 70 per cent., and Necker's figures are about the same as Lubarsch's.

The latest contribution to this question was furnished by Beitzke,[1] who had examined 1,100 bodies at the *Charité*, in Berlin, with particular reference to the occurrence of healed and active tuberculosis, and his results are somewhat lower even than those of Lubarsch and Necker. In children under 15 years of age, as is to be expected, tuberculosis is less common than in adults, involving but 27.3 per cent. of 198 children, and in about half of these it was the cause of death. In 703 bodies of persons over 15 years of age active tuberculous lesions, calcified nodules, and positively tuberculous but healed lesions were found in 409, or 58.2 per cent.

Beitzke believes that Naegeli's statement, that almost every adult is tuberculous, should be changed to read thus: "In the autopsy material of the hospitals of certain large cities nearly every adult body is tuberculous." He believes that the high figures obtained by Naegeli and Burkhardt are to be ascribed, at least in part, to a high tuberculosis rate in the cities in which their investigations have been made, and especially to the class of patients served by large charity hospitals, in whom tuberculosis is much more common than in the rest of the population of the country at large. Therefore, Beitzke believes that we are much more nearly correct if we assume that only about one-half of all persons in all states of society suffer from a demonstrable tuberculous lesion during their lives.

It would seem, however, that the chief reason for the discrepancy in these several sets of statistics lies in the interpretation put on certain pulmonary lesions by different pathologists. All agree that encapsulated caseous areas in lungs or lymph glands are certainly tuberculous, and that calcified nodules in the same locations are nearly always, but not invariably, the sequel of healed tuberculosis. There are found, however, certain lesions of more debatable origin, including the common puckered scars and pleural adhesions at the apex, and the minute fibrous nodules of two or three millimeters diameter in the lung and pleura. Naegeli and many others believe that such lesions represent healed tuberculosis and include them in their statistics as such. Others, among whom is Beitzke, do not believe that these areas are always of tuberculous origin, and leave them out of consideration. If Beitzke had included these lesions in his tables, or if Naegeli had left them out of his statistics, the two pathologists would have been in reasonably close agreement, and the same thing may be said of the rest of the statistics. It is evident, therefore, that we cannot be sure whether nearly all persons have tuberculosis at some time, as Naegeli maintains, or whether Beitzke is more nearly correct in implicating but half the population, until we know how large a proportion of all the pleural and pulmonary scars represent healed tuberculosis. That is a difficult problem which we must ask the pathologic anatomists to work out. In any case it is certain that the estimate of 58 per cent. of healed and active tuberculosis in the bodies of adults represents a minimum figure, and that it is possible that the higher estimates of from 70 to 95 per cent. may prove to be correct.

THE EFFECT OF CAFFEIN ON THE TOXICITY OF ACETANILID AND ANTIPYRIN

The origin of the prevalent custom of adding caffein to prescriptions containing acetanilid, antipyrin, and acetphenetidin has not been satisfactorily explained. For two or three decades before the introduction of the "coal-tar" antipyretics, caffein was in somewhat extensive use as a remedy in neuralgic and other headaches, and it may be that this use suggested its combination with the newer antipyretics. Whether or not this was the case, there can be little doubt that at present the motive which usually leads physicians to add caffein to prescriptions containing these "coal-tar" products is a belief that it will counteract the depressing effects of the latter—a belief that has been long and assiduously fostered by the manufacturers of headache nostrums. The clinical literature on this subject contains no evidence that caffein actually has this effect; the belief is apparently based on the pharmacologic action of caffein as a cardiac and respiratory "stimulant" as opposed to that of the antipyretics which are considered to be "depressants." The question evidently is primarily a pharmacologic one and its solution is to be sought in careful experiments on lower animals; only thus was the true pharmacologic action of digitalis, for example, discovered.

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[1] Berl. klin. Wchnschr., 1909, xlvi, 388.

Hale[1] has recently published an investigation of this character; his results will doubtless be a surprise to many physicians. Briefly stated, he finds that caffein has little or no activity in counteracting the deleterious effects of either acetanilid or antipyrin on the heart; it does have some activity in preventing the slowing of the heart caused by these drugs, but it has practically no effect, or if any an injurious one, on the contractile power of the heart. On the intact animal, caffein is not only *not an antagonist to acetanilid and antipyrin*, but it actually increases their toxicity, so that animals die from smaller doses of these when small amounts of caffein are given simultaneously than when the acetanilid or antipyrin is given alone.

These results do not necessarily prove that the combination of caffein with these antipyretics may not at times be advantageous; as was pointed out above, caffein alone has considerable value in relieving certain forms of headache. But they do show that physicians should not trust to caffein to counteract the injurious effects of these drugs and that the doses of the latter should be lessened when prescribed with caffein; many physicians are under the impression that larger doses may be prescribed if caffein is added, and the dose of the Pulvis Acetanilidi Compositus, U. S. P., is larger (as regards acetanilid) than that of acetanilid itself.

Hale's paper contains many other points of interest. Thus he finds that the alkaloids of the morphin group also increase the toxic effects of acetanilid, while mixtures containing salicylic acid and the bromids seemed not to alter its poisonous effects in any way. Sodium bicarbonate lessened the toxicity of acetanilid both on the heart and on the intact animal; it had a similar action toward antipyrin so far as the heart was concerned, but not as regards the intact animal.

The results of these experiments bring to the front once more the baneful effect that the proprietary nostrum business has had on pharmacology. The medical profession has accepted without question the proposition iterated and reiterated by manufacturers of headache "cures" that caffein renders acetanilid "safe." Scientific work, unhampered by any commercial considerations, determines that the direct opposite is actually the fact. Such work as this of Hale's will do much toward placing pharmacology on a firmer basis and restoring that confidence in the materia medica which it deserves.

THE RESPONSIBILITY OF THE MENTALLY SUBNORMAL

Perhaps there is no concept which needs a more thorough revision than that of social and legal responsibility. According to the old theory, accepted alike in psychology and in law, human beings could be divided into two absolutely distinct classes, the sane and the insane, the one completely rational and completely responsible, and the other completely irrational and completely irresponsible. It followed, then, that society could protect itself perfectly against any antisocial acts on the part of the first class by attaching to such transgressions penalties sufficient to outweigh the advantages derived therefrom; and it followed just as logically that such penalties were of no avail against the second class.

Unfortunately for the theory, human nature persists in escaping from rigid categories. On the one hand, we find that many of the mentally subnormal are capable of responding rationally, in greater or less degree, to incentives supplied by rewards and punishments; and, on the other, experience shows that normal man at his best is, as some one has put it, a reasoning but not a reasonable animal—still less the ratiocinating machine presupposed by the theory of our penal system. Responsibility is not, as was once supposed, an indivisible unit, but rather a web into which enter strands from many sources.

The idea that an insane man should be subjected to what is ordinarily called punishment seems revolting to many persons. Criminal jurisprudence appears to rely on the maxim that any degree of mental aberration in an individual renders him altogether irresponsible in all his conduct, especially if this be criminal. The theory of partial or attenuated responsibility, though held by some eminent physicians, among whom may be reckoned the late Dr. C. F. Folsom, of Massachusetts, appears to have taken comparatively slight hold on the public or the legal mind. Hence it is not strange that a recent paper by Dr. J. J. Walsh[1] should have been editorially criticized by some newspapers as barbarous in its ideas and in its possible influence on the practice of the criminal courts. If it be recognized, however, that punishment is not based on any other fundamental consideration than the protection of society, it is difficult to see why it should not be inflicted in some cases of insanity. "Insanity" is a term of extremely wide interpretation; and we may rationally assume that it is not in all its degrees equivalent to irresponsibility. Walsh's assertion that punishment would be more deterrent to the partial lunatic than to the normal individual may need considerable qualification. Cases differ widely, and some subjects of morbid impulse, for example, not to speak of subjects of delusion, may be utterly incapable of being deterred by any penalty whatever. It is only a part of the insane who fall correctly into his class of mentally subnormal individuals who really can control their evil impulses if sufficient incentive is given. With a large proportion of them, however, there is some susceptibility to control of this kind, and even in the best-managed asylums, where the word "punishment" is tabooed absolutely, this fact is practically recognized and discipline maintained by classification of the patients and other means. Even epileptic furor is, in some cases at least, capable of control by fear of consequences. Some of the most violent epileptics will be very careful not to attack or to interfere with other patients whose physical strength is greater than their own. Many of the crimes of the insane are committed with a full knowledge that they are protected from the consequences by the theory of their irresponsibility. Nevertheless, society has to be protected from them as from other criminals; Dr. Folsom, in his comments on the case of Jesse Pomeroy, expressed the same idea even more strongly than Dr. Walsh, when he asks whether anything else than death will protect society from such an individual as Pomeroy when the chances of escape from prison are so many.

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[1] Bulletin 53, Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service, Washington, D. C., 1909; also Jour. Pharmacol. and Exper. Therap., August, 1909, p. 185.

[1] Walsh, James J.: Insanity, Responsibility and Punishment for Crime, Am. Jour. Med. Sc., August, 1909, cxxxviii, 262.

It is not necessary to go so far as to demand the death penalty in cases of doubtful or attenuated responsibility; but officials who have the pardoning power and judges of courts should be held to a stricter responsibility in such cases than even in ordinary ones. Mental weakness in a criminal is itself a source of danger; what makes him an unfit subject for extreme punishment also renders more perilous the enlargement of his privileges. There are many criminals of whose mental soundness there may be some doubt, but who need, for the security of the public, to be put under more effective restraint than that afforded by any ordinary institution for the insane. Even a so-called criminal asylum may not be sufficiently secure. When such an individual has committed the highest crimes he should be deprived of physical liberty for life. This may be contrary to the present tendency. Many physicians, especially some experts in insanity, will not agree with it, but it is a rational, and, to some of the best alienists, the only possible solution of the problem. The death penalty is not justifiable in cases in which there is any doubt of the responsibility of the individual, but punishment short of that, and, especially, humane and secure confinement for life, seems the proper treatment for those who escape the extreme penalty of the law on the ground of insanity.

THE USE OF MILK AS FOOD

Milk is so important an article, from both the dietetic and the commercial points of view, that the results of an experimental and statistical investigation on the subject made by Mr. R. D. Milner,[1] Assistant in Nutrition Investigations of the United States Department of Agriculture, must prove of great practical interest, even though they convey nothing really new.

In the first place, milk and its derivatives supply about 16 per cent. of the food-value of the average American family diet. Of this amount, approximately one-third is used in the form of milk and cream, the remaining two-thirds being converted into butter and cheese. From economic and climatic considerations especially, the cow is the source of most of the world's supply of milk, although in different places the goat, the buffalo, the llama, the camel, the mare, the sheep and the reindeer also make their contribution to the milk supply.

The composition of milk varies between rather wide limits, although a good unadulterated article should contain about 87 per cent. of water and 13 per cent. of solids; about one-quarter of the solids consists of protein compounds (5 or 6 parts of casein to 1 part of albumin) and one-third of fats. The fat of milk is present in the form of an emulsion, and the creaminess depends on the size and number of the fat-globules. Carbohydrates, of which lactose is the most important, comprise 38 per cent. of the solids; the remaining solids consist of mineral matters, principally phosphates and chlorids (sodium, potassium, calcium).

Milk almost invariably contains bacteria of varied kind and number; some of these cause the souring of milk and the ripening of cream and cheese and are responsible for other changes affecting both the appearance and the flavor. Milk may also be the carrier of pathogenic germs, notably those of typhoid fever, scarlet fever, diphtheria and tuberculosis. In the absence of bacteria, milk would remain sweet indefinitely, and the problem of milk-preservation consists in checking the growth and multiplication of bacteria. These are comparatively inactive at a temperature below 50° F., but they are not destroyed by freezing, which brings about undesirable changes in the milk, while extreme heat kills them and causes other undesirable changes. Pasteurization and sterilization are useful means of controlling the growth of bacteria. As the process of manufacture destroys any bacteria which may be present, condensed milk and milk-powders are practically sterile. The use of chemical agents for the purpose of destroying bacteria in milk is not to be commended. In many large cities standardized and certified milks can be obtained.

The nutritive materials of milk are easily and thoroughly digested by normal, healthy persons, and often even by persons of impaired health. By many observers the protein is believed to be rendered less easy of digestion by boiling. The digestibility of the fat appears to depend inversely on the size of the fat-globules. Mother's milk is best adapted by Nature to the nourishment of infants. It differs from cow's milk mainly in the character of its protein, in the smaller size of its fat-globules and in its greater amount of milk-sugar. Milk contains too much water to be a perfect food for adults; nevertheless, its solids furnish all the necessary ingredients and in good proportions.

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[1] Farmers' Bulletin No. 363.

Unless the price be exceptionally high, milk is as economical a source of nutrients as other animal foods, but less so than most staple vegetable products. On the other hand, it requires no preparation, is free from waste and is more thoroughly digested than most vegetable foods. As a source of protein, the most expensive of the nutritive ingredients, it is especially economical. Skim-milk, which is the whole milk minus part of its fat, and which costs only half as much as whole milk, furnishes protein at one-quarter the price of beef; and, as fat is usually abundant in the ordinary mixed diet, skim-milk might most advantageously be used in the place of whole milk in dietaries in which cost must be carefully considered. The freer use of skim-milk for cooking purposes is also to be recommended. Foods prepared with either whole milk or skim-milk are by so much the more nutritious than if prepared with water.

Butter and cheese are the most important products of milk. Butter is one of the chief sources of fat in the ordinary diet and furnishes it in a palatable and easily digestible form. Cheese consists of the casein of milk plus more or less of the fat and mineral matters. Its flavor and texture vary with the bacteria and ferments developed in the process of manufacture; the less expensive varieties make one of the cheapest sources of protein. The common and milder varieties are easily and thoroughly assimilated. Other products of milk—junket, whey, buttermilk, clabber and the fermentation-products, such as kefir and kumiss—are all nutritious foods and are often of especial value in the diet of invalids.

BILE SALTS

During the last few years there has been marked interest in the use of bile salts as medicinal agents. In discussing the question of the action and use of the bile salts it should be clearly understood that they are not in any proper sense a new introduction into therapeutics. They are, in fact, merely a different form of a remedy that has had a place in medicine for a long time and which now is official in the United States Pharmacopeia as Ox Gall (Fel Bovis) and Purified Ox Gall (Fel Bovis Purificatum). Bile salts are merely the active constituents of the bile and will find their therapeutic application wherever the bile itself might be used. Since their only advantage over bile lies in the fact that they are free from extraneous matter, the question of purity is of great importance. It is regretable to learn, as the analyses of Long and Johnson[1] clearly show, that some preparations on the market are deficient in this respect. Bile and pure bile salts deserve a more thorough and critical clinical trial than has been accorded them in the past, and their sphere of usefulness needs to be determined more exactly. They are regarded by some as the most powerful stimulant of the secretion of bile which we possess, though it should be noted in this connection that some pharmacologists hold that the increase in bile salts excreted simply represents the amount of bile salts administered and excreted in addition to the normal amount contained in the bile.[2] If this is true the amount of increase in the secretion will depend on the dose and can not be expected to be very great on the doses recommended for some of the preparations. Since these products are being used in large quantities, an investigation, such as that by Long and Johnson, should prove of great value.

THE ITALIAN CONGRESS ON PELLAGRA

In view of the recent recognition, the wide distribution, and the apparently increasing prevalence of pellagra in this country, the work of the fourth Italian congress on pellagra, which has just concluded its sessions at Udine, is of much importance here. G. Sanarelli, president of the congress, professor of hygiene at Bologna, and undersecretary of the Italian department of agriculture, supports Lombroso's theory in regard to the etiology of the disease, and believes that the chief obstacles to the eradication of pellagra in Italy are the ignorance of the peasantry, among whom "polenta," or thick corn-meal mush, is a universally popular dish, the culpable inertia of the large landed proprietors and their agents, and the cheating of the millers, who make a practice of substituting defective maize for good grain brought to their mills to be ground. The Italian government, like the Austrian government,[3] has been making special efforts to stamp out the disease by instruction in regard to diet and prophylaxis as well as by hospital treatment, and now intends to establish a system of supervision for the milling of maize. It is interesting to note that in Italy pellagra is attributed especially to the use of corn grown in situations which do not permit the ear to come to full maturity. A similar suggestion has been made in regard to the disease in this country. McCampbell[4] believes that the increase of pellagra here may be due to the fact that, whereas it was formerly the custom to allow the ear to stand in the field on the stalk until perfectly mature and dry, it has lately become a common practice to cut the corn-stalk, often immature and green, and to pack it in a shock, where conditions favor fermentation and heating. It will be of interest and value to compare the results of the Italian congress with those of the National Conference on Pellagra in this country, which meets in Columbia, S. C., early in November.

Medical Inspection of Schools.—The departments of school hygiene should cooperate with boards of medical inspection in detecting and preventing contagious diseases. The boards of medical inspection become especially active during times of epidemic and contagion, but the departments of school hygiene should never cease their activity while children are growing. Like the parent and the teacher theirs should be a constant care, the value of which is to be measured only by the influences of time and the tests which measure true service.—G. W. A. Luckey, in *Hygiene and Physical Education.*

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[1] Page 1412 of this issue.

[2] Schaffer, quoted by Wood, Therapeutics, ed. 14, p. 508.

[3] Vienna Letters, THE JOURNAL A. M. A., Sept. 4, 1909, liii, 808; Aug. 1, 1908, li, 420. Sofer, L.: Campaign Against Pellagra in Austria, Therap. Monatsh., April, 1909; abstr. in THE JOURNAL A. M. A., May. 15, 1909, lii, 1631.

[4] McCampbell, J.: Theory as to the Cause of the Recent Appearance in this County of Pellagra, Jour. South Carolina Med. Assn., November, 1908.

Medical News

ALABAMA

Colleges Open.—Birmingham Medical College opened for its winter term September 29. The opening address was made by the Rev. J. T. Plunkett, D.D.——The annual session of the Medical Department of the University of Alabama, Mobile, opened September 22. Addresses were delivered by the dean of the faculty, Dr. Rhett Goode, and President J. W. Abercrombie of the University.

Personal.—Dr. Montgomery G. Shipp has been elected health officer of Albertville, Dr. James A. Thomson of Guntersville, and Dr. David A. Morton of Boaz.——The Dallas County Board of Health has chosen Dr. Thomas G. Howard, Selma, county health officer, vice Dr. Barney B. Hogan, removed from the city. Dr. James S. Chisholm was elected secretary of the board.——The governor has remitted the fine of $10 against Drs. Joseph N. Guy, Lapine, and W. H. Mitchener, for failure to transmit vital statistics as required by the new state medical regulations.

COLORADO

Personal.—Dr. Benjamin F. Griffith, Leadville, has been elected grand physician of the Women of Woodcraft.——Dr. Thomas A. McIntyre, Cripple Creek, is reported to be seriously ill with septicemia.

Hospitals Acquire Property.—The State Land Board has given 310 acres of farm land in Jefferson county to the state as a site for the State Home and Training School for Feeble-Minded Children, the bill establishing which was passed by the last legislature.——The Children's Hospital Association, Denver, has bought the property at Twenty-second and Downing avenues, formerly occupied as the Woman's Hospital. The building has a capacity of 25 beds and will be ready for use November 1.

State Society Meeting.—At the annual meeting of the Colorado State Medical Society in Estes Park, September 14-16, the following officers were elected: President, Dr. Leonard Freeman, Denver; vice-presidents, Drs. John R. Espey, Trinidad, Allan J. McDonald, Leadville, Ella Avery Mead, Greeley, and Samuel C. Halley, Fort Collins; councilors, Drs. Edmund J. A. Rogers, Denver, and George H. Cattermole, Boulder; delegate to the American Medical Association, Dr. Hubert Work, Pueblo; alternate, Dr. Alexander C. Magruder, Colorado Springs, and member of publication committee, Dr. Henry W. Hoagland, Colorado Springs. Colorado Springs was selected as place of meeting for 1910. A resolution was adopted setting forth the faithful and conscientious labor of the editor of *Colorado Medicine*, Dr. George A. Moleen, Denver, and extending the thanks of the society to him. Dr. Melville Black, Denver, presented a resolution, which was carried, urging a careful inquiry into the advisability and feasibility of the establishment of a sanatorium and home to be maintained by the American Medical Association for the care of its members.

DELAWARE

Sanatorium Dedicated.—Beth Israel House, the gift of the Jews of Wilmington to the Delaware Antituberculosis Society, was dedicated October 10, at Hope Farm.——At the same time the Baron De Hirsch shack, the gift of Nathan Garsky to the society, was dedicated. Previous to the ceremony, members of the Delaware Red Cross, the Antituberculosis Society, and the legislature were entertained at a banquet, at which the governor and other prominent personages made addresses.

Officers Elected.—At the one hundred and twenty-first annual meeting of the Medical Society of the State of Delaware, held in Dover, October 12, the following officers were elected: President, Dr. Presley S. Downs, Dover; vice-presidents, Drs. L. Heisler Ball, Marshallton, and Joseph M. Martin, Lewes; secretary, Dr. George W. K. Forrest, Wilmington; treasurer, Dr. Samuel C. Rumford, Wilmington; delegate to American Medical Association, Dr. James H. Wilson, Dover; and delegate to National Council on Medical Education, Dr. Henry W. Briggs Wilmington.

ILLINOIS

Hospital Opening.—A reception was given, October 4, by the Physicians' Club of Canton to the Graham sisters, who donated Graham Hospital to Canton, and the public reception and opening of the hospital was held on the following day.

Personal.—Dr. Benjamin J. Nauman, Peru, George W. Boot, Evanston, and William B. Peck, Freeport, have returned from Europe.——Dr. Sidney G. Pratt, Buda, who recently underwent operation in St. Francis Hospital, Kewanee, is reported to be convalescent.

Norbury Given Loving Cup.—At a meeting of the Jacksonville Medical Club, October 2, Dr. Frank Parsons Norbury, recently appointed superintendent of the Kankakee State Hospital, was presented with a handsome loving cup by the club. The speech of presentation was made by Dr. Albyn L. Adams.

Pellagra Commission Named.—The governor has appointed the following committee to investigate pellagra: Drs. Frank Billings, George W. Webster, Howard T. Ricketts, and Oliver S. Ormsby, Chicago; Dr. James L. Greene, Springfield; Dr. H. Douglas Singer, Kankakee; Drs. Harris S. Grindley and Ward J. McNeil, Urbana.

Pellagra Conference.—The following will constitute the committee from Illinois, delegated to attend the Conference on Pellagra, to be held at the State Hospital for the Insane, Columbia, S. C., November 3 and 4: Dr. James A. Egan, Springfield, secretary of the Illinois State Board of Health, chairman; Drs. George W. Webster, Frank Billings, and Walter H. Buhlig, Chicago; Dr. John T. McAnally, Carbondale; Dr. H. Douglas Singer, Hospital, and Dr. George A. Zeller, South Bartonville.

Court Verdicts.—Sarah E. Wood, Rock Island, charged, on complaint of the State Board of Health, with practicing medicine without a license and selling drugs and ointments, is said to have been found guilty, October 6, and fined $100 and costs. An appeal was taken.——In the case of Mrs. Carrie A. Smith, Bloomington, against Dr. Ernest B. Mammen, in which negligence in a surgical operation was alleged, the jury is said to have found for the plaintiff, October 9, and assessed damages at $2,400.

Tuberculosis Exhibit.—The State Board of Health made a striking exhibit of the prevalence of tuberculosis and the method of its prevention at the state fair. A striking part of the exhibit was a clock placarded, "Every time this clock strikes some one in Illinois dies of consumption, one every hour, 24 every day, 750 every month, and 9,000 every year." A large chart was exhibited showing the proportion of deaths from pulmonary tuberculosis in the state during stated age-periods for the year 1908. Another noteworthy illustration was a map showing twenty states, in every one of which the legislature has made adequate appropriation for a state sanatorium for tuberculosis, but in which Illinois does not appear. Many warning notices were displayed condemning the habit of spitting. This is the first time the Illinois State Board of Health has prepared such an exhibit for the state fair, and the board cannot be too highly commended for the time and care taken to bring these important truths before the people of the state.

Chicago

Plans to Eliminate Diploma Mills.—The Civic Federation announces its intention of actively undertaking a campaign against illegal medical schools and "diploma mills."

Civil Service Examination.—The County Civil Service Commission announces an examination October 28, to fill the position of chief of the medical staff at the Cook County Institutions, Dunning.

Personal.—Dr. Walter W. Hamburger, Dr. and Mrs. Cassius C. Rogers, and Dr. Henry Gradle have returned from Europe. ——Dr. Otto L. Schmidt has been appointed by the governor a trustee of the Illinois State Historical Library.——Dr. and Mrs. Irvin S. Koll and Dr. Strother J. Beeson have sailed for Europe.——Dr. Frederick O. Tonney has been appointed superintendent of the municipal laboratory, vice Dr. Joseph F. Biehn.

New Hospitals.—More than two hundred patients at the Dunning Tuberculosis Hospital will be removed to the new hospital on the grounds of the County Hospital this month. The hospital has recently been completed at a cost of $150,000, and it is proposed to remove there all the far advanced patients, retaining the more hopeful cases in the institution at Dunning.——Ground was broken, October 10, for the new addition to the Norwegian Lutheran Deaconess' Home and Hospital, which is to cost $75,000, and which is expected to be completed next spring.

Bequests.—Public charities are benefited $382,500 by the will of the late Mrs. Nelson Morris. Of this, $300,000 is left for the founding or endowment of a convalescent hospital or home for children. This bequest is made to any hospital or corporation in Chicago, but preferably to Michael Reese Hospital. The Chicago Home for Incurables receives $5,000; the [illegible] berculosis Sanatorium $5,000; the Chicago [illegible] and Dispensary, $2,500; the Children's [illegible], $5,000, and Michael Reese Hospital

$10,000.——A check for $1,000 has been presented to the German Hospital, Chicago, by Herman Paepcke, in memory of his wife, who died recently.

INDIANA

Personal.—Hope Hospital, Fort Wayne, has secured Dr. Henry Woodring, Altoona, Pa., as house physician.——Dr. Robert M. Campbell, West Point, has succeeded Dr. William S. Campbell, Lafayette, as secretary of the Tippecanoe County Board of Health.

New Health Rules.—The new "Book of Instructions to Health Authorities," issued by the State Board of Health, contains all the laws relating to public health, and is to be furnished to each county health officer, county judge, county auditor, and prosecuting attorney.

License for Medicine Venders.—The Jeffersonville city council, on October 4, passed an ordinance fixing a license fee of $50 for itinerant venders of medicine on the streets, with penalty for each violation of the ordinance, of a fine of not less than $50 or more than $200.

KANSAS

Must Make Reports.—Sedgwick county is to be the seat of war on physicians who do not obey the state health laws as regards the reporting of births, deaths and contagious diseases. The State Board of Health has instructed Dr. Walton I. Mitchell, Wichita, county health officer, to institute proceedings against physicians who fail to obey the law.

Enjoins Registration Board.—Dr. Charles A. Ruggles, Stafford, has brought suit against the Kansas State Board of Medical Registration and Examination to enjoin it from trying him October 14. He alleges that the board issued him a certificate in 1901, and that he has been practicing ever since in Stafford. A temporary restraining order has been granted.

Freak and Quack Doctors.—In order to protect the people of the state against freak and quack doctors, so-called "magnetic healers," etc., the secretary of the State Board of Medical Registration and Examination has secured an official opinion from the attorney-general, which authorizes the board to inaugurate a campaign against fraudulent practitioners in the state. The opinion of the attorney-general is that so-called "magnetic healers" and practitioners of similar systems are barred by the new law, and that an individual comes within the provision of the statute who treats or attempts to treat the sick or those afflicted with bodily or mental infirmities. The board desires all reputable physicians to report any violation in their locality, and promises that arrests will follow promptly. Dr. Henry A. Dykes, Lebanon, is president of the board, and Dr. Frank P. Hatfield, Olathe, secretary.

MARYLAND

State Hospital Inspected.—The State Lunacy Commission and Board of Managers of the Maryland Hospital for Insane, Catonsville, held a joint meeting, October 15, and inspected the institution. The board has acquired possession of a farm of forty-five acres.

Baltimore

Manufacturing Pharmacist Dies.—Mr. Alpheus P. Sharp, founder of the drug firm of Sharp & Dohme, who retired from business a number of years ago, died at his home in Baltimore, October 10, aged 86.

To Examine North Pole Data.—Dr. Ira Remsen, president of the National Academy of Science, has been formally requested by the National Geographical Society to appoint a commission to examine into and report on the data of Commander Robert A. Peary and Dr. Frederick A. Cook, regarding their claims to the discovery of the North Pole.

Personal.—Dr. Nathaniel G. Keirle, superintendent of the Pasteur Institute of the College of Physicians and Surgeons, was given an anniversary dinner, October 11, in celebration of his seventy-sixth birthday, and was presented a volume containing his collected writings on rabies.——Dr. George B. Reynolds is ill at Johns Hopkins Hospital with nervous breakdown.

MASSACHUSETTS

Hospital Opened.—The new Rufus S. Frost Hospital, Chelsea, was opened for inspection October 11. The building is of brick and concrete, 160 by 67 feet, and three stories in height, and has accommodation for 70 patients. Dr. E. Frank Guild is chief of the medical staff of the institution.

Good Health Exhibition.—An exhibition illustrative of the means and methods of the preservation of good health was held in the City Hall, October 13-20, inclusive, under the auspices of the Lawrence Antituberculosis League. The exhibition was held throughout the day, and lectures were given each evening and Sunday afternoon, on the fundamental facts regarding tuberculosis and public health.

Personal.—Dr. Edward H. Bushnell, Quincy, sustained a serious electric shock and burns of the left hand while attempting to turn off the electric light while using the telephone at his home.——Dr. Charles G. Carleton has been reelected president, and Dr. Frank B. Flanders, secretary of the medical staff of the Lawrence General Hospital.——Dr. Earnest D. Pillsbury, West Somerville, sustained painful bruises when a wooden electric light pole fell on his automobile recently.——Dr. Edwin Katzenellenbogen has been appointed lecturer in abnormal psychology in Harvard University.

Few Accept Rebates on Prescriptions.—The committee on rebates on prescriptions, appointed by the Essex North District Medical Society, reported at the meeting, October 13, to the effect that the committee had obtained unquestionable evidence that members of the society and probably other physicians, have been approached to accept rebates on prescriptions and to become interested in the sale of proprietary remedies, but that for the most part these affronts have been treated as they deserve. Any physician who is in doubt as to the proper course to pursue, the committee advises to consult Chapter II, Section 8 of the Principles of Medical Ethics of the American Medical Association and paragraph 7 of the Code of Ethics of the Massachusetts Medical Society.

MICHIGAN

Society Meeting.—At the annual meeting of Ottawa County Medical Society, held in Holland, the following officers were elected: President, Dr. Thomas G. Huizinga, Zealand; vice-presidents, Drs. Daniel G. Cook, Holland, and Julius F. Peppler, Byron Center, and secretary-treasurer, Dr. George H. Thomas, Holland.

Health Campaign in Escanaba.—Dr. Oscar C. Breitenbach has been appointed city chemist of Escanaba. Dr. Breitenbach has been active in the fight against typhoid fever in Escanaba, and has had the earnest cooperation of the Business Men's Association, the mayor and city council. A six million gallon mechanical filter will soon go into commission, and an ordinance providing for the tuberculin test of milk and general milk inspection is now being drafted.

Personal.—Dr. Myron A. Patterson, city physician of Albion, is reported to be ill with typhoid fever in Hurley Hospital, Flint.——Dr. F. J. Bierkamp, Wyandotte, has been appointed pathologist at Youngstown (Ohio) Hospital.——Dr. William DeLano, health officer of Grand Rapids, has relinquished the management of the tuberculosis sanatorium on account of ill health.——Dr. Orley M. Vaughan, Covert, has been unanimously re-elected, for the fifth term, president of the Board of Superintendents of the Poor of Van Buren county.

Adds to List of Communicable Diseases.—At the quarterly meeting of the State Board of Health, held in Lansing October 8, the following diseases were declared to be dangerous communicable diseases: Pneumonia, tuberculosis, typhoid fever, meningitis, diphtheria, whooping cough, scarlet fever, measles, and smallpox. The board also ruled that tetanus, rabies, erysipelas, leprosy and cancer should be reported for statistical purposes. It was decided that no person with open tuberculosis should be employed as a teacher in the public schools of the state, and a resolution was adopted instructing the secretary to prepare and issue notices to common carriers and schools forbidding the use of the common drinking cup.

NEBRASKA

Personal.—Dr. W. H. Wilson, Omaha, has been reappointed State Health Inspector.——The Pathological Club of the University of Nebraska gave a dinner at Lincoln Hotel, September 14, in honor of Dr. Henry B. Ward, formerly dean of the medical college of the university, and elected him an honorary member of the society, the first so to be honored.——Dr. Robert H. Walcott has been appointed acting dean of the college of medicine.

Quarantine Against Meningitis.—The State Board of Health has adopted a resolution setting forth that cerebrospinal meningitis, poliomyelitis, or spotted fever, which is epidemic in certain parts of the state, is recognized by the board as a contagious disease, and is subject to the quarantine laws of the state. Local authorities are ordered to quarantine those who have been exposed, for a period of ten days, the usual period of incubation, and those infected with the disease for a period of not less than twenty-one days.

Society Meeting.—At the semi-annual meeting of Knox County Medical Society, held in Bloomfield, Dr. Czar C. Johnson, Creighton, was appointed secretary pro tem. The question of a uniform schedule of fees was discussed and a committee of three was appointed to formulate such a schedule, to be signed by all members of the society, Drs. Roy Crook, Winnetoon, James R. Kaylor, Bloomfield, and William H. Britt, Creighton, were appointed as this committee. The next meeting of the society will be held in April, 1910, at Creighton.

Southeastern Physicians Organize.—A meeting of physicians, representing southeastern Nebraska, was held at Tecumseh, October 6, at which the southeastern Nebraska Medical Society was organized, with Dr. Earl B. Brooks, Pawnee City, president, and Dr. Albert P. Fitzsimmons, Tecumseh, secretary. The district of the society includes Gage, Pawnee, Johnson, Richardson and Nemaha counties.

NEVADA

State Society Meeting.—The sixth annual meeting of the Nevada State Medical Association was held in Goldfield, October 5-7. The following officers were elected: President, Dr. George McKenzie, Reno; vice-presidents, Drs. Francis M. Nesmith, Goldfield, and William H. Hood, Reno; and secretary-treasurer, Dr. Sidney K. Morrison, Reno. The next meeting will be held at Lake Tahoe.

NEW JERSEY

Must Register Births.—Under the new state law on vital statistics, which went into effect October 1, physicians and midwives are required to file certificates of birth with the city clerk within five days, under a penalty of $50 for each violation. Under the new law, the city receives twenty cents for every birth or death reported.

Elections.—At the meeting for organization of the Woodbury Society for the Prevention and Relief of Tuberculosis, the following officers were elected: President, William T. Cooper; vice-presidents, Mrs. Elizabeth Cooper, Miss Elizabeth Matlack, and Mrs. Charles Eastlack; secretary, Howard S. Davis; treasurer, Dr. Thomas E. Parker, and solicitor, A. L. Rogers. ——At the annual meeting of the Practitioners' Society of East Monmouth, October 8, Dr. William B. Warner, Red Bank, was elected president; Dr. Reginald S. Bennett, Asbury Park, vice-president; Dr. Harry E. Shaw, Long Branch, secretary, and Dr. William K. Campbell, Long Branch, treasurer.

Fewer Deaths in September.—During the month ended September 15, 3,153 deaths were reported, a decrease of 102 from August, and of 311 as compared with September, 1908. The decrease in mortality is in a great measure believed to be due to the efficient work of local health authorities. Chief among death causes for the month were infantile diarrhea, 553; diseases of the nervous system, 343; diseases of the circulatory system, 317; tuberculosis, 302; diseases of the digestive system, 257; nephritis, 204; cancer, 119; diseases of the respiratory system, 115; pneumonia, 93; whooping cough, 33; suicide, 32; diphtheria, 31; typhoid fever, 23; cerebrospinal meningitis, 18; scarlet fever, 11; measles, 7, and malarial fever, 6.

NEW YORK

Hospitals Consolidate.—Action has been taken consolidating the New York Infant Asylum and the Nursery and Child's Hospital, both of New York City. The institutions have combined assets of $1,000,000.

New Superintendent.—Dr. William T. Shanahan, Sonyea, who for nearly nine years has been a member of the medical staff of the Craig Colony for Epileptics, has been appointed medical superintendent of that institution.

A Million for Charity.—A New York philanthropist, whose name is withheld, has written, through his attorney, asking Dr. Robert W. Hill, secretary of the State Board of Charities, for advice as to the best way to distribute one million dollars for charity in this state or in New Jersey.

Medical College Opens.—The formal opening exercises of the College of Medicine of Syracuse University were held October 6. Dean Smalley, of the university, delivered the opening address on "The Value of a Liberal Education," and Dr. John L. Heffron, dean of the Medical College, spoke on the development of medical science in the last fifty years.

New York City

Ambulances in Collision.—Three ambulances belonging to the J. Hood Wright Hospital were damaged in collisions on three consecutive nights. In two of these accidents the ambulance surgeons and drivers were severely cut and bruised.

Open-Air School Rooms Wanted.—The Department of Education, in addition to the sum of $3,400 asked for the instruction of tuberculous children, has asked for $6,500 to build and equip open-air school rooms for anemic children.

A More Vigorous Antituberculosis Fight.—The representatives of seventy-five civic and charitable institutions met at the Colony Club to discuss the 1910 city budget. Lawrence Veiller stated that the death rate from tuberculosis had not decreased in this city since 1902 and that it would be greater this year than for several years past. The Board of Health has on its register 48,000 cases of tuberculosis; 28,000 of these are not receiving any medical attendance and 20,000 patients have been lost sight of during the last two or three years; their fate is unknown. The Board of Health is doing its best with limited funds but needs $250,000 at once. With this fund it will be possible to provide only one visit a month by a physician and a nurse to each patient. For the sanitarium at Otisville, Riverside Hospital and Bellevue and the Allied Hospitals more money is needed, hence a resolution was offered urging the Board of Estimate and Apportionment to grant an increase of $487,250 for the campaign against tuberculosis, $362,169 for municipal charities and hospitals and $6,800 for Bellevue and the Allied Hospitals.

PENNSYLVANIA

Auto Ambulance.—An automobile ambulance has been purchased by the city of Harrisburg. The ambulance will accommodate four patients in addition to the necessary attendants.

New Hospital Opened.—The new hospital, recently erected in Nanticoke, at a cost of $30,000, was formally opened October 12. The dedicatory address was delivered by Lieutenant-governor Murphy.

District Society Meeting.—At the annual meeting of the Fourth Censorial District Medical Society, held in Harrisburg, September 16, Dr. George W. Berntheizel, Columbia, was elected president, and Dr. Chester F. Markel, Columbia, secretary.

Physicians Arrested.—Sixty physicians of Schuylkill county were placed under arrest October 2 by Dr. R. J. Brauner, state inspector of health, charged with violation of the act of 1905, which requires that births of all children be reported within ten days.

New School Building.—It is announced that plans for the new building of the Medical Department of the University of Pittsburg will be completed and construction will be started this month. The new building will be located at the extreme west end of the grounds of the university and almost at the highest point.

Vaccination Upheld.—In an opinion handed down in Common Pleas Court, by Judge J. J. Miller, of Pittsburg, the right of the authorities of the State Department of Health, through Dr. Samuel S. G. Dixon, Commissioner of Health, and his advisory board, to regulate vaccination in the public schools of this state, is upheld.

Tuberculosis.—More than $20,000 was collected in Reading, September 20, by Berks County Tuberculosis Aid Society. ——The new buildings of the Jewish Consumptive Sanatorium Association at Eagleville were dedicated October 10. A fund of $6,500 toward the maintenance of the institution was pledged at the dedication exercises.

Tuberculosis Pavilion.—Through the generosity of Hon. James R. and Mrs. Macfarlane, a fresh-air pavilion for tuberculous patients is to be added to the Pittsburg Hospital for Children, in memory of a child of the donors, who died several years ago. The pavilion is of the one-story bungalow type, and will cost, when completed, about $3,000.

Personal.—Dr. William S. O. Sherman, Pittsburg, has been appointed chief of the surgical staff of the Carnegie Steel Company.——Dr. John F. McGrath, medical examiner for the bureaus of police and fire, Pittsburg, has resigned.——Dr. James E. Silliman, Erie, was operated on recently at Jefferson Hospital, Philadelphia, for ventral hernia.

Acquitted.—Dr. Condy C. Gallagher, Coaldale, charged with the illegal practice of medicine, was acquitted.——In the case of Drs. John C. Weidman and Anthony I. Hoon, Mercer, charged with sending anonymous communications through the mails, libeling Lyle W. Orr, the jury decided in favor of the defendants, the prosecutor to pay the costs.

Dr. Weeks Vindicated.—At a meeting of the Board of Trustees of the Eastern Pennsylvania Institution for Feeble-minded and Epileptics, Spring City, October 13, Dr. Henry M. Weeks, the superintendent, was vindicated of the charges of mismanagement made against him. The full board, after going over the evidence, declared the charges untrue and furthermore declared their confidence in the superintendent.

First-Aid Contests.—First-aid teams of six coal companies competed at Wilkes-Barre, October 2, for the prizes offered by the American National Red Cross. The judges of the contests were Major Charles Lynch, Major Charles R. Reynolds and Captain Howard B. Bailey, Medical Corps. U. S. Army. The first prize was won by the Pennsylvania team, the second by the Hillside team, and the third by the Susquehanna team.

Physicians Honored.—At the annual meeting of the Erie County Medical Society, held in Girard, September 21, the birthday of Dr. Orlando Logan, the oldest physician in the organization, was celebrated. In token of the esteem in which he is held, he was presented with a cane, Dr. E. H. Strickland making the presentation address.——At a reception given by the State Board of Medical Inspectors at the home of Dr. Samuel G. Dixon, State Commissioner of Health, Bryn Mawr, a silver loving-cup was presented to Dr. Dixon, Dr. Edgar M. Green making the presentation speech.

Public Health Education.—The meeting of the Pennsylvania Branch of the Public Health Education Committee of the American Medical Association was held in Philadelphia September 28, at the time of the meeting of the State Medical Society, Dr. Elizabeth Leiper Martin, Pittsburg, state secretary for Pennsylvania, presiding. Dr. Rosalie Slaughter Morton, New York City, chairman of the National Committee, described the origin and aims of the committee, which was formed at the request of the House of Delegates of the American Medical Association for the purpose of educating the public, through various women's organizations, in the prevention of disease. Plans for work in Philadelphia and all over the state were outlined by Drs. Francis C. Van Gasken, Philadelphia, and Dr. Martin. The unanimous spirit of enthusiasm was most gratifying and it was felt by those present that great good might result from this movement of women members of the American Medical Association. The House of Delegates of the State Society passed a resolution endorsing the work of the committee, and authorizing a public health and education committee in every county in the state.

Philadelphia

Officers Elected.—At a meeting of the Pathological Society, October 15, the following officers were elected: President, Dr. David Riesman; vice-presidents, Drs. Aloysius O. J. Kelly, Alleen J. Smith, David L. Edsall and Joseph Sailer; secretary, Dr. Edward H. Goodman; treasurer, Dr. Courtland Y. White; recorder, Dr. Frederick H. Klaer, and curator, Dr. Howard T. Karsner.

Personal.—Dr. Harry Lowenburg has been elected pediatrist of the Northwestern General Hospital.——Drs. Benjamin L. Gordon and John H. Musser have returned from Europe.——Dr. Gerald D. O'Farrell was thrown from a carriage in a runaway October 4, fracturing his clavicle and sustaining scalp wounds and contusions.——B. Byron Dawson, the newly appointed executive secretary of the Pennsylvania Society for the Prevention of Tuberculosis, has assumed his duties.

College of Physicians to Open.—The new building of the Philadelphia College of Physicians on Twenty-sixth and Ludlow streets will be formally opened November 10. The building will be handed over to the college by Dr. William J. Taylor, secretary of the building committee, and will be accepted by the president, Dr. George E. De Schweinitz. The dedicatory address is to be delivered by Dr. James Tyson, president of the college, and addresses will be delivered by Drs. Robert Fletcher, Washington; John S. Billings, New York City; William Sydney Thayer, Baltimore; Charles L. Dana, New York City, and Reginald H. Fitz, Boston. At the evening session an address will be made by Dr. S. Weir Mitchell, after which a reception will be held.

Tuberculosis Exhibit at Normal School.—The educational exhibit of the Pennsylvania Society for the Prevention of Tuberculosis was opened in the Girls' Normal School, October 18. The principal of the school presided, and addresses were made by Dr. Martin Brumbaugh, director of public schools; Dr. Joseph Neff, director of the Department of Health and Charities, and Dr. Charles Hatfield, president of the Pennsylvania Society for the Prevention of Tuberculosis. The exhibit was open daily from 2 until 3:30 p. m. and was closed October 22. Demonstrations were given each day and the exhibit was composed of material displayed at the exposition held in this city last spring. From the normal school the exhibit will be placed on view at the various public schools throughout the city.

New Milk Rules in Effect.—Rules and regulations for the sale of milk recently adopted by the Board of Health were made effective October 15. One of the rules, in conformity to an act of legislature, provides that every milk dealer and storekeeper who sells milk must be provided with a special license, the cost of which will be $5 per year. This license must be displayed in the dealer's principal place of business and duplicates must be placed in all delivery wagons, and all wagons must be numbered for identification purposes. Selling without license will be punishable by a fine of $50 or imprisonment of not more than one hundred days. License will be revoked for violation of rules, regulations and requirements of the board. Dealers, thus deprived, have the right to appeal within five days to the courts.

WEST VIRGINIA

Personal.—Dr. D. B. Bushong, Summit Point, has been appointed medical examiner of the Baltimore and Ohio Railroad Company Relief Association at Cumberland, Md.——Dr. James L. Massey, Parkersburg, is said to have been fined $50 and sentenced to imprisonment for three months in jail for contempt of court August 31. He is alleged to have failed to pay alimony and to have threatened the life of the judge.

Elections.—At the forty-second annual meeting of the West Virginia State Medical Association, held in Elkins, October 6-8, the following officers were elected: President, Dr. Thomas W. Moore, Huntington; vice-presidents, Drs. Claude L. Holland, Fairmont; James McClung, Richwood, and A. L. Grubb, Berkeley Springs; secretary, Dr. Arthur P. Butt, Davis; treasurer, Dr. Hugh G. Nicholson, Charleston; councilors—first district, Dr. George H. Benton, Chester; second district, Dr. John C. Irons, Elkins; third district, Dr. J. G. Wheeler, Hanford; fourth district, Drs. Lonzo O. Rose, Parkersburg, and Alva S. Grimm, St. Marys; and fifth district, Dr. Joseph E. Rader, Huntington; and delegates to the American Medical Association, Drs. Albert S. Bosworth, Elkins, and Charles A. Wingerter, Wheeling.——The Ohio County Medical Society, at its annual meeting in Wheeling, elected the following officers: President, Dr. John J. Osborne; vice-president, Dr. William S. Fulton; secretary, Dr. Randolph J. Hersey; treasurer, Dr. Reed McC. Baird; and councilors, Drs. Samuel L. Jepson, Charles A. Wingerter and Robert M. McMillen, all of Wheeling.——At the annual meeting of the Barbour-Randolph-Tucker County Medical Society, held at David, Dr. Lurty N. Harris, Mill Creek, was elected president; Drs. Arthur P. Butt, first vice-president, Davis, and E. Mendel Hamilton, Belington, vice-presidents; Dr. T. Jud McBee, Elkins, secretary-treasurer; Dr. John W. Bosworth, Philippi, censor, and Dr. George C. Rodgers, Elkins, delegate to the state medical association.

GENERAL NEWS AND COMMENT

Italian Physician in America.—Prof. Dr. Nicolo De Dominicis, of the University of Naples, is making a second visit to this country and is being entertained in Boston, New York and other cities.

Navy Medical School Opens.—The Naval Medical School opened for its annual session, October 4. The faculty includes Medical Director John C. Boyd, president of the school; surgeons Charles F. Stokes, Frank L. Pleadwell, Eugene J. Grow, and Charles St. J. Butler; passed assistant surgeons. Owen J. Mink and Francis M. Shook, and Lieutenant Commander Downs L. Wilson, retired, instructor in hospital corps drills and signaling.

Bilibid Prison.—In the report of the Bilibid Prison, Manila, for the fiscal year 1909, it stated that the prevailing diseases among the prisoners were helminthiasis, malaria, morphinism. bronchitis, tuberculosis, dyspepsia and dysentery in the order *named.* The deaths during the year amounted to 129, of which 93 were due to tuberculosis, and of these 82 were from pulmonary tuberculosis, while the other deaths from all causes were only 36.

Monument to Dr. Turner.—The American Society for the Study of Inebriety and Narcotics has erected a monument to the memory of Dr. J. Edward Turner, the founder and builder of the first inebriate asylum in the world, at Binghamton, New York. The dedicatory services will be held October 27, at Wilton, Conn. A historic address will be delivered by Dr. H. O. Marcy, of Boston; the dedicatory address by Dr. L. D. Mason, of Brooklyn, and the memorial oration by Dr. T. D. Crothers, of Hartford, Conn. This monument is a tribute to the memory of Dr. Turner from the various inebriate asylums, homes and sanatoriums of the country.

Wants Pay for Correcting an Error.—A well-known pharmaceutical house, which makes vaccine virus as one of its products, prepared and propagated a large amount of virus that the Public Health and Marine-Hospital Service declared contaminated. This was made while the firm was operating under the federal license which is required of all manufacturers of such products. On ascertaining the facts the government suspended this license until the firm had withdrawn all of the contaminated virus from the market. By order of the Public Health and Marine-Hospital Service the product was condemned and ordered destroyed. The company then withdrew the condemned product from the market and destroyed it; the value of the amount destroyed being stated as over $14,000. The firm in question then presented a bill to the government for the amount of the virus destroyed! The bill was not allowed.

The English Sparrow as a Disseminator of Disease.—A correspondent of *Bird Lore*, the organ of the Audubon societies of the United States, includes, among other evil results of the introduction of the English sparrow to this country, its agency in the propagation of disease. She says: "To the dog and cat is often charged the spreading of the infectious germs of swine and poultry diseases. While these animals have one chance to be such carriers, the English sparrow is probably guilty a hundred times in his rôle of gleaner in the hog-pen and poultry yard." The English sparrow has been called "the feathered rat," and it well deserves the name. Its danger to human kind is not altogether negligible, for it is a ubiquitous little creature, and, while it does not enter our habitations directly, it has ample opportunities to communicate any disease germs of which it may be the bearer to our domestic animals and household pets. The germ-carrying capacity of the English sparrow and its relation to public health and disease might make a profitable subject for investigation and study.

Railway Surgeons Meet.—At the annual meeting of the Association of Surgeons of the Southern Railway Company, held in Lexington, October 11, the following officers were elected: Dr. James P. Salb, Jasper, Ind., president; Drs. R. Craig Falconer, Lexington, Ky., and James H. Lacy, Albion, Ill., vice-presidents; Dr. Frederick R. Gobbel, English, Ind., secretary-treasurer, and Drs. Martin F. Coomes, Louisville, Ky., Julien W. Scott, Venice, Ill., and Frederick R. Gobbel, English, Ind., executive committee.——The chief medical examiners of the relief departments of the Pennsylvania Lines, Chicago, Burlington and Quincy, Philadelphia and Reading, Atlantic Coast Lines, Western Maryland, and the Baltimore and Ohio systems met in the offices of the Baltimore and Ohio Railroad, Baltimore, October 9, and organized, to better facilitate the interchange of experience, and in a general way promote the work of the medical and surgical corps under their direction.

Death Causes.—The preliminary report of the Census Commission relative to the second decennial revision of the Classification of Causes of Death, made by the International Commission in Paris, together with a revised list of titles, will be found in Census Bulletin No. 104, soon to be published, and copies will be sent to all the registration officials of the United States and to the members of the American Statistical Association. A new manual of classification will be prepared for the use of registration officers of the United States as soon as detailed results of the revision are available, and an effort will be made to bring the revised classification to the attention of every physician and local registrar in the country, as an aid to the proper reporting of causes of death. Dr. Wilbur states that the United States starts at the beginning of a new census decade with revised classification of causes of death, in which American registration officials and American physicians have had their say; a revised standard certificate of death, which will be adopted by the American Public Health Association, in Richmond, this month, and put into effect Jan. 1, 1910; and with new rules and instructions recently formulated by the Directors of the Census, and promulgated to all reporting officers for the purpose of obtaining more complete and correct transcripts of the deaths now registered.

FOREIGN

Death of Lombroso.—Cesare Lombroso, the noted alienist and criminologist, died at Turin, Italy, October 18, of heart disease, aged 73.

Fourth Latin-American Medical Congress.—The *Brazil Medico* gives the details of this successful gathering of medical men from all the Latin-American countries, held at Rio de Janeiro in August. Dr. A. Sodré, editor-in-chief of our esteemed exchange, was president of the congress, which attracted 1,500 members, and at which over 100 papers were presented. There was an exhibition in connection with the congress, but the most interesting exhibit was the city of Rio itself, which has eradicated yellow fever mainly by the initiative and efforts of Oswaldo Cruz, at the head of the board of health. The congress adopted a resolution congratulating him on this, "the most brilliant sanitary triumph of the contemporaneous epoch."

LONDON LETTER

(From Our Regular Correspondent)

London, Oct. 9, 1909.

The Education of the Medical Student

The unceasing progress of medical science necessitates constant changes in the education of the medical student and a constant increase in his curriculum. The problem how to teach him all that he should learn becomes more and more difficult. Some years ago it was found necessary to increase the course of study from four to five years, but so difficult is it found that the average time now spent before a qualification is obtained is nearly seven years; only 13.8 per cent. of the students obtain a qualification in the minimum period of five years, 35.9 per cent. take six years, while the remaining 51 per cent. consume seven years or more in getting their medical education. The General Medical Council (the body appointed by government to control medical education and to exercise disciplinary powers over the profession) has had the question under consideration whether it would be expedient to again lengthen the course, either by extending it to six years or by setting back the preliminary subjects of chemistry, physics and biology to a period anterior to the commencement of the medical curriculum proper. A committee appointed by the council to investigate the subject has reported that the length of time now occupied in obtaining a qualification renders further extension of the course undesirable. It does not consider the second alternative feasible at present, partly because the secondary schools of the country, from which the medical students come, are not adequately equipped in sufficient numbers for the purposes of instruction, and partly because it is as much as the medical students now can do to pass the present entrance examination at a reasonable age. The average age of the students is 18½ years. Another important subject discussed was whether the fifth year should be confined to clinical study. When the fifth year was added to the curriculum the object was that it should be devoted entirely to this study, but it often happens that other subjects which the student has not succeeded in completing, are also studied in this year. The committee recommends that no fixed rule be made on the point, and hopes that by better distribution of the work in the earlier years the object intended may be achieved.

London Medical Schools

The opening of the London medical schools this session has been characterized by unusual activity, and the result of recent developments are apparent. Many have enlarged their premises and improved their equipment. The younger schools of the provinces have for some time shown themselves serious competitors, for they are equipped in the most modern fashion and most of them have the advantage of being attached to a university, while the majority of the London medical schools are not. Moreover, the London schools are to a large extent without public endowment, which is a common feature of provincial schools. The advantage of London is the size of its hospitals, which furnish a wealth of clinical material seldom approached in the provincial schools. It is now recognized, however, that much reliance must not be placed on this, and that it is necessary that medical schools be equipped in the most modern manner. Another new feature in the London schools and hospitals is the increasing provision for postgraduate teaching. Twenty years ago no provision whatever existed; now several hospitals are devoted entirely to it, and many others are making or have made arrangements for it. A great disadvantage under which the London schools labor is the greater difficulty of obtaining a doctor's degree (M.D.) in the metropolis than in the provinces and in Scotland and Ireland. In the latter localities nearly every medical school is attached to a university where the average student can obtain a degree. But in London there is only one university and the standard for its degree is the highest in Great Britain, much too high for the average student, who therefore contents himself with obtaining a license to practice from the Colleges of Physicians and Surgeons (L.R.C.P., M.R.C.S.). Though the license of the colleges confers the same right to practice as does a degree, the latter gives the physician a better status and alone entitles the holder to be called "doctor." But this title is indiscriminately applied to all who practice medicine by the majority of people. However, the holder of a license is placed at some disadvantage, especially among patients of the wealthier class. The difficulty of obtaining the doctor's degree has long been a grievance with the London medical schools, and attempts have been made to overcome it without success. The London University has been approached with a view to modifying its standard so as to render its degree more accessible to the bulk of the London students, but the university authorities and the alumni naturally object to a course which would lower the prestige of their degrees, which is now regarded as the foremost in the kingdom. The consequence of the comparative difficulty of obtaining a medical degree in London is that students are going in large numbers to the provincial schools, where for the same expenditure of time and money as it takes to obtain a license in London a degree can be obtained, and the London schools are, in spite of their unrivaled opportunities for clinical teaching, being depleted.

Increase of Women Pharmacists

A noticeable feature of the inaugural meeting of the present session of the Pharmaceutical Society was the large attendance of women, showing that the sex is alive to the opportunities presented by pharmacy as a lucrative and suitable occupation. In recent years there has been a great increase in the number of female pharmacists. Thirty years ago scarcely any entered the profession. As dispensers they are being employed in hospitals and by physicians who dispense their own medicines. They are also employed by pharmacists, but they are kept in the background and seldom seen in the shop, for the public has a great prejudice against being served with drugs by girls. The scale of payment is sufficient to attract women into the profession.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Oct. 5, 1909.

A New Trick of the Antivivisectionists

Certain classes of "nature-healers" and other groups of dubious affiliation have lately attempted to secure legislation against what they call "vivisection." A large number of physicians and surgeons have been taken unawares and prompted to sign a harmless-looking leaflet, in which "unnecessary cruelty toward animals in experiments" was deprecated. Once the names and signatures were obtained, they were used to convince the public that even medical men themselves have come to believe that "vivisection" can be dispensed with without stopping the progress of science. Much mischief has been done by this misleading use of medical opinions. The "committee" which is responsible for the agitation remains quite anonymous. Thus the protests from those who want to disclaim the use of their names in this way cannot be addressed to any person. Medical councils have warned their members of the risk they run if they reply imprudently to such an invitation. A careful study of the replies given by medical men shows that not a single one is averse to experimental pathology, if conducted by proper men in a proper manner, with an anesthetic. The movement urges the passage of a bill in which each animal experiment should be made subject to a special written permission to be granted by a joint committee, to consist of an equal number of "experts" (not otherwise defined) and of members of the associations for protection of animals from cruelty. Needless to say, such a law would mean the extinction of that enormously important branch of medical research without which modern scientific work is impossible. As permission for the experiment would be given only with the understanding that the animal must be killed (by chloroform) after the end of the experiment, such proceedings would be simply useless for medicine. There is little probability that the bill will really be brought before parliament within the next few years, as our legislative fathers have very important political matters on their hands. But still the profession, and the teaching staff of the universities have seen enough of the animosity against education, so strong in the present ruling party, not to be quite free from anxiety.

The Overproduction of Medical Privat-Docents

The number of privat-docents in Austria has increased so rapidly that if the privat-docents of theoretical subjects are counted as well as others, at present there are in Vienna no less than 300 amongst 3,000 medical men in this city, or 10 per cent. This would be of little consequence if the "privat-docents" were such only for teaching purposes. But as a rule this title is aimed at solely for the purpose of commanding a better fee for medical advice, as the majority of our public are very fond of titles. They esteem a privat-docent or a professor of any small special branch more than an experienced mere practitioner, however superior the knowledge of the latter may be to that of the former. The title of "privat-docent" may be obtained by an assistant who does a few scientific researches and writes a good deal about his specialty. Several university men have raised objections both to the "proletarization," as they termed it, of the teaching staff, and to the misuse of this title in medical practice. It has been suggested for instance that the use of the title "privat-docent" should not be allowed on the door-plate or visiting-card or the prescription, but only in connection with university work and in literature. This title should be granted under severer restrictions, and only in recognition of really important scientific contributions.

The Coming Winter Term of the Vienna Medical School

The great majority of the lectures and classes of the Vienna medical school will take place, as usual, in the Allegemeines Krankenhaus and the Poliklinik, the remainder in the smaller hospitals. Twenty-nine ordinary, 67 extraordinary professors, 170 privat-docents have announced their classes. There will be 97 classes in internal medicine, 49 in surgery, 43 in gynecology and obstetrics, 39 in pathology and morbid anatomy; 38 classes will deal with dermatology, including syphilis; ophthalmology has 32 classes, otology 27, psychiatry 23, anatomy 18, pediatrics 17, chemistry 15, forensic medicine 14, rhinolaryngology 14, materia medica 13. Altogether, 457 classes, against 445 in the last winter-term, will be held this year. This does not include the classes which are repeated because an excessive number of students apply for them. These parallel classes increase the number by about 10 per cent.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 6, 1909.

Prizes Offered by the German Central Committee for Cancer Research

The management of the German central committee for cancer research has offered prizes on the somewhat strange assumption that the general practitioner needs further instruction in the early clinical diagnosis of carcinoma. These prizes are to be awarded for an exposition of the early diagnosis of cancer as brief as possible, but covering the entire field, which shall be suitable for distribution as a pamphlet to practicing physicians. Three prizes are offered of $250, $125 and $75 (1,000 500 and 300 marks). The competition is open to every physician in Germany.

Comparative Mortality in England and Germany

On the basis of the latest published German mortality tables for 1891 to 1900 and the mortality table for England published in 1907 and covering the same period, the well-known medical statistician, Dr. Prinzing, publishes investigations in the last number of *Soziale Medizin und Hygiene*, which yield the following interesting results:

The mortality in England and Germany for the last decade for the ages of from 2 to 30 has materially diminished. The mortality of infants, which was formerly already smaller in England than in Germany, is still at the present time much more favorable, especially in the period of early infancy and at the ages of from 6 to 11 years. The lower mortality of the latter life period in England, depends for the most part on the fact that for decades diphtheria in England has been much less widespread than in Germany. In adult life, on the other hand, the mortality in Germany has diminished more than in England, so that to-day the male sex of ages from 28 to 66 years and the female of ages 37 to 62 years show relatively a smaller mortality in Germany than in England, although three decades ago this was true only for short life periods. It may safely be assumed for Germany that the more favorable showing of the mortality in the life period of the greatest earning power is to be attributed, in addition to the increase of the general welfare and the improvement of housing conditions, to the extended social precautions and the system of compulsory insurance. The reason for the higher mortality in England in this period of life is the predominant urban character of the English population. The mortality after the sixtieth year has been considerably reduced in Germany, while it has risen in England. It is, to be sure, still lower in old age in England than in Germany, but the difference has notably decreased. Although the evolution of the mortality in Germany affords reason for considerable satisfaction, still marked progress must yet be made for the mortality in infancy, at the age of from 6 to 10 years, in young men from 17 to 21, and women from 20 to 30, to reach the low figure which it has already reached in England.

Meeting of the German Scientific Association

The annual meeting of the association of German scientists and physicians (*Gesellschaft deutscher Naturforscher und Aerzte*), which closed a few days ago, had to its credit only a relatively small number of important contributions. One important reason for this was naturally the occurrence of the international congress at Budapest only two weeks previously, which had attracted a number of German physicians. This circumstance also shows again the unfavorable result of the undue frequency of congresses. The scientific output of the naturalist section was also unimportant. Only the special congresses that meet as sections of the scientific association—the German pediatric society, the German pathologic society and the medicolegal society were able to show a somewhat extensive program. The meeting for next year will be held at Königsberg.

Chronicle for Berlin University for 1908

Some interesting data are furnished from the announcement of our university which has just appeared. Six thousand two hundred and nine students were matriculated in the summer semester of 1908. Of these, 909 were medical students, but to these are to be added 366 students of the Kaiser Wilhelm army medical school. In the medical school were 321 foreign students. In the winter semester of 1908 and 1909 the number of students was 7,869 men and 409 women. The number is, as may be seen, greater than in the summer, because at that season the South German universities are attended to a greater extent. There were 1,224 men and 88 women medical students, and in addition, 377 students of the Kaiser Wilhelm Academy. Seventy-nine were graduated as doctors of medicine in the entire year; 10 were admitted to the faculty as privat docents in medicine.

Pharmacology

THE PURITY OF COMMERCIAL BILE SALTS

J. H. Long, M.S., Sc.D., and W. A. Johnson, Ph.C.

On account of the increased interest in the physiologic behavior of the bile salts and acids a number of these preparations in purified form have appeared in the market. It has been thought desirable to make a rather complete examination of some of the best known of these products, and the results obtained in this work are given below. The substances analyzed were all secured from the manufacturers by the secretary of the Council on Pharmacy and Chemistry.

It requires but a very superficial examination to show that these salts, as now sold, in some cases at least, are very different from the old gummy products obtainable a few years ago. The initial step in the separation of the salts from the bile is doubtless that followed in the production of the "crystallized bile" of Plattner, that is, precipitation of the alcoholic solution of the evaporated bile by an excess of ether. This treatment throws out the alkali salts of the bile acids. The further treatment evidently varies with the different manufacturers, and leads to products with different degrees of purity. The following tests have been made:

BILE SALTS (FAIRCHILD BROTHERS & FOSTER)

This is a dry and very nearly white powder of crystalline appearance under the microscope. It dissolves readily in water, giving a yellowish solution. We found on analysis:

		For Dry Subst.
Moisture	1.67 per cent.	
Ash	8.85 per cent.	9.01 per cent.
Nitrogen	2.57 per cent.	2.61 per cent.
Sulphur	3.70 per cent.	3.76 per cent.
Phosphoric anhyd.	1.10 per cent.	1.12 per cent.
Specific rotation	20.9°	21.3° for c = 5

A word must be said about some of these determinations. The ash as here reported is the residue left after incineration and prolonged heating over the blast lamp. Sodium taurocholate leaves an acid ash containing acid sodium sulphate, which becomes the ordinary sulphate on strong ignition. The glycocholate leaves an alkaline ash containing carbonate, and the two salts heated together would increase the yield of sulphate through the added alkali from the glycocholate. The ash of the taurocholate, after prolonged fusion, should amount to about 13.2 per cent. and the sulphur to 5.95 per cent. Our results suggest a mixture, but the sulphur and ash determinations can not be calculated to a mixture of the two principal salts, the glycocholate and taurocholate. The difficulty is partly accounted for by the presence of phosphorus in the ash, which appears in relatively large amount. So far as known none of the bile salts contains phosphorus, but another constituent of the bile, usually overlooked, holds phosphorus in marked quantity. This is a lecithin, and it has been shown that in the preparation of the bile salts this phosphatid clings tenaciously. Hammarsten refers to the presence of the phosphorus in bile salts as probably due to a lecithin, and the matter has been rather fully investigated in this laboratory by one of us and Gephart.,[1] who prepared and purified a bile salt which on analysis gave these figures:

N	2.64 per cent.
S	3.70 per cent.
P_2O_5	0.66 per cent.

It was found by these authors that a given weight of bile salts will carry down a much greater weight of lecithin than is indicated by these figures. A second salt prepared in the laboratory showed on analysis:

N	2.43 per cent.
P_2O_5	0.87 per cent.

When this salt was mixed with egg lecithin in the proportion of 5 parts of the first to 3.95 of the other, taken up with alcohol and precipitated by ether, a mixture was secured which gave as follows:

N	2.24 per cent.
P_2O_5	3.94 per cent.

How the lecithin is held in such mixtures, of which many were made, can not be stated, but it is not removable by ether washing. In view of these facts we must look on this bile salt as a normal one containing from 12 to 13 per cent. of a lecithin body, or similar phosphorus-holding complex. Assuming this to be the common monamino monophosphatid, the above figures may be approximately duplicated by a mixture of salts and lecithin as follows:

	Per Cent.	S	N	P_2O_5
Lecithin	12.5	0.00	0.22	1.10
Sodium taurocholate	63.5	3.78	1.65	
Sodium glycocholate	24.0	0.00	.69	
		3.78	2.56	1.10

The relatively low ash of the preparation examined, and the high specific rotation are well accounted for by such a mixture as the above. In many other salt mixtures which we have examined the ratio of the taurocholate to the glycocholate is about the same as here indicated, as ox-bile is the common material worked up.

BILE SALTS (ABBOTT ALKALOIDAL COMPANY)

This preparation is not as light as the one just described. It is brownish yellow, and dissolves in water to which it imparts considerable color. On this account much difficulty was found in purifying a solution sufficiently to permit a satisfactory determination of the specific rotation. This was finally accomplished by long treatment with animal charcoal, without loss of the substance itself. Analysis gave:

		For Dry Subst.
Moisture	3.15 per cent.	
Ash	8.44 per cent.	8.71 per cent.
Nitrogen	2.44 per cent.	2.52 per cent.
Sulphur	3.95 per cent.	4.08 per cent.
Phosphoric anhyd.	1.82 per cent.	1.88 per cent.
Specific rotation	18.3°	18.9° for c = 5

It is evident from these figures that the percentage of taurocholate is a little higher in this sample than in the last one. The most marked peculiarity, however, is in the much higher phosphorus content. The nitrogen and the specific rotation are correspondingly low. Phosphatids like lecithin are gummy substances, but the combinations with the bile salts are hard solids. It is possible that the phosphorus may be held wholly in such a combination, in which case the above figures correspond closely to a mixture like the following:

	Per Cent.	S	N	P_2O_5
Lecithin	21	0.00	0.36	1.85
Sodium taurocholate	68	4.05	1.77	
Sodium glycocholate	11	0.00	.32	
		4.05	2.45	

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[1] Jour. Am. Chem. Soc., August, 1908, where the literature is quoted.

A mixture in these proportions would give a specific rotation of 19.3°, while we found 18.9°. In this calculation Ulpiana's value for lecithin is used, which possibly is high.

This salt is apparently likewise a normal product from the bile, notwithstanding the high phosphorus content. Our knowledge as to the nature of the bile-salt and lecithin combination is as yet too imperfect to warrant any very definite opinion as to the average composition of the mixture precipitated by ether. The amount of phosphorus given here is not as large as in some of the analyses reported in the work of Hammarsten, referred to above.

SODIUM TAUROCHOLATE (MERCK & COMPANY)

In some biles this salt is relatively abundant, and the separation is not considered difficult. In the case before us, however, the separation and purification have been far from satisfactory, as the analytical figures show. They are as follows:

		For Dry Subst.
Moisture	2.87 per cent.	
Ash	13.60 per cent.	14.00 per cent.
Nitrogen	0.97 per cent.	1.00 per cent.
Sulphur	1.68 per cent.	1.73 per cent.
Phosphoric anhyd. ..	trace per cent.	trace per cent.
Specific rotation ...	16.0°	16.4°

On ignition of the salt over the Bunsen burner the white ash secured amounted to about 19 per cent. of the whole. This over the blast lamp was reduced to the value given, which behavior, taken alone, is somewhat suggestive of the taurocholate. But the very low nitrogen, low sulphur and low specific rotation indicate, apparently, a decomposition product. The salt dissolves, giving a solution with a very dark color and a bad odor. It is possible that in the attempt at purification some cholate was formed with loss of a corresponding amount of taurocholate. The analytical results are best explained in this way, but the rotation should be higher in such case. No effort was made to follow the matter further. The product is evidently not what it is labeled.

SODIUM GLYCOCHOLATE (MERCK & COMPANY)

This salt appears to be even more contaminated with foreign substances than is the preceding one. The water solution secured was very dark and the odor bad. The purification for the specific rotation determination was unusually difficult. The following results were obtained on analysis, and here, as in all the other cases, duplicate tests were made. The nitrogen and sulphur determinations were repeated by a second analyst, with very close agreement.

		For Dry Subst.
Moisture	1.69 per cent.	
Ash	12.85 per cent.	13.07 per cent.
Nitrogen	0.53 per cent.	0.54 per cent.
Sulphur	0.84 per cent.	0.86 per cent.
Phosphoric anhyd. ..	trace per cent.	trace per cent.
Specific rotation	14.0°	14.2°

It will be observed that the phosphorus is low in both of these salts, which further goes to show profound alteration from the normal condition. It is not possible to account for the decomposition here indicated, but it will be noticed that the nitrogen is decreased as well as the sulphur. The optical rotation is only about two-thirds of the normal.

COLALIN (RUFUS CROWELL & COMPANY).

This product has been described as hyocholalic acid, and as such should contain no nitrogen. According to the manufacturers, it is made by the process of Jolin, as described in vol. xiii, of the *Zeitschrift für physiologische Chemie*, which, if properly carried out, should furnish a nitrogen-free product. The following results show the actual situation, as found by our recent analyses:

		For Dry Subst.
Moisture	3.80 per cent.	
Ash	2.00 per cent.	2.08 per cent.
Nitrogen	2.90 per cent.	3.01 per cent.
Sulphur	0.60 per cent.	0.62 per cent.
Phosphoric anhyd. ..	trace per cent.	trace per cent.
Specific rotation	5.48°	5.69°

The ash is not present as a residue from the alkali salts of the bile, but is practically all in insoluble form. According to the manufacturer, it is magnesia, added to prevent the caking of the product; our tests agree with this statement. The sulphur points to the presence of taurocholic acid, not fully separated from the glycocholic acid by the original process. The very high nitrogen content is interesting; for pure glycocholic acid this should amount to 3.01 per cent., and for hyoglycocholic acid, which, according to Jolin and others who have worked on the problem, has a slightly different composition, the nitrogen content is 3.04 per cent. Counting out the magnesia, the results found by us would approximate to this value very closely. The small content of taurocholate, suggested by the sulphur, would not lower the nitrogen value appreciably.

The data for the optical rotation of hyoglycocholic acid are not very definite, and different values seem to belong to the two forms, the alpha and beta varieties, said to be present in hog bile. Our value was obtained from the alcoholic solution after a rather lengthy purification process, which was possibly attended with some loss. Jolin gives the value for the alpha form of hyoglycocholic acid as + 9.7°, and states that for the other form the rotation is lower. For hyocholalic acid he gives + 5.9°.

If it were not for the presence of the large amount of nitrogen our rotation would suggest this acid, as the preparation is claimed to be. The rotation of the acid from ox-bile is much higher than from the bile of the hog, and in this respect our results point to the latter as the original source in the manufacture.

Taking all things into consideration, it is evident that the product is probably a mixture of hyoglycocholic and hyotaurocholic acids, rather than the corresponding cholalic acids, as the manufacturer assumes it to be. A revision of the description is evidently called for. It should be added that the nitrogen is not present as an ammonium or other soluble salt, nor in a protein combination. Both nitrogen and sulphur are present in forms insoluble in water, but soluble in alcohol, and are evidently a part of the acid molecule.

A Correction

Among the reports issued by the President's Homes Commission (Senate Document No. 644) was one by the Committee on Social Betterment which contained a chapter on "The Drug Habit." In this chapter was a list, furnished the committee by the Department of Agriculture, of "patent medicines," containing habit-forming drugs, among which was "Fruit-Lax," alleged to contain morphin. This list was reproduced in THE JOURNAL, May 29, 1909. Now we are informed that this particular preparation—"Fruit-Lax"—was included in the list furnished the committee and published in Senate Document No. 644, through a clerical error, since there was no reason to suppose that it contained morphin.

Seizure of Waterbury's Metabolized Cod-Liver Oil Compound

On two occasions[1] THE JOURNAL has shown the falsity of the claims made for Waterbury's Metabolized Cod-Liver Oil Compound. As recently as October 9 it was demonstrated that the product contains salicylic acid, and "does not deserve to be designated as a cod-liver oil preparation," as the amount of fatty acids it contains is not more than one part in a thousand. It is interesting to note in this connection that the United States Government has now seized a consignment of this product on the ground that it is misbranded. The reasons given for the government's action are that:

> " . . . the labels bear certain statements regarding said drug which are exaggerated, false and misleading and that among the said exaggerated, false and misleading statements are the following, that is to say: 'Waterbury's Metabolized Cod-Liver Oil. This product contains the metabolized product obtained by the action of ferments on cod-liver oil;' and the further statement: 'Waterbury's Metabolized Cod-Liver Oil Compound does contain cod-liver oil;' and the further statement that many institutions are using it exclusively as the one general tonic and tissue builder; and the further statement that 'blue wrapper indicates product without antiseptic' . . ."
>
> "These statements and all of them are exaggerated, false and misleading in this, that said product obtained contains no material

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[1] Oct. 13, 1906, and Oct. 9, 1909.

part derived from cod-liver oil, due to metabolic changes; and further, that said product contains no cod-liver oil; and further, that said product is not such that is could be a tissue builder, and that it is not a tissue builder; and further, that said product contained in the bottles wrapped as aforesaid in the blue wrapper contains a product which is an antiseptic, that is to say, contains salicylic acid, and that these statements heretofore enumerated, and all of them, regarding said liquor or drug are exaggerated, false and misleading . . ."

The manufacturer will have thirty days in which to reply to the charges brought by the government and to show cause why the product should not be condemned and confiscated.

Correspondence

Hygiene of Childhood

To the Editor:—On the invitation of the Department of State of the United States Government, the Fifteenth International Congress on Hygiene and Demography will convene for the first time on the American continent in Washington, D. C., Sept. 26 to Oct. 1, 1910. Section III of this congress deals with the subjects of the "Hygiene of Infancy and Childhood: School Hygiene." It is believed that this will be a meeting of the utmost importance. We take this means of requesting your readers to let us know [at 1 Madison av., New York City] of any pieces of original work which are being done, bearing on this topic.

A. Jacobi, President.
Luther H. Gulick, Secretary.

The Investigation of Blood for Tubercle Bacilli

To the Editor:—In a letter in The Journal (Oct. 2, 1909, liii, 1113), Burnham claims "priority" for Burnham and Lyons *apropos* of the work published by me in The Journal (Sept. 18, 1909, liii, 909), in which I found distilled water contaminated with acid-fast bacilli. Burnham and Lyons found vibrios contaminating their water while they were searching for typhoid bacilli in fresh blood, but they did not find acid-fast organisms in the water. In one of their preparations, made with blood from the lobe of the ear, they found tubercle-like bacilli which they considered contaminating organisms from ear wax. Apparently, it did not occur to them that these might have come from distilled water.

It does not seem to me that their experience was similar to mine, as Burnham's letter states, or that Burnham is justified in his claim. Their work was published in the *New Orleans Medical and Surgical Journal*, October, 1909.

Walter Brem, M.D., Colon Hospital, Cristobal, C. Z.

Miscellany

Impressions of America.—Professor Hofmeier devotes twelve pages in the *Zeitschrift für Geburtshülfe und Gynäkologie*, lxv, p. 242, to an account of a trip through the United States last spring. He was the representative of Germany at the centennial of the first ovariotomy, celebrated by the American Gynecologic Society, and deplores the earliness of the date, which left an interval of six weeks before the session of the American Medical Association, so that he was unable to attend the latter. In commenting on the limitation of membership to 100, he remarks that this must shut out a large number of the younger physicians from the work in this scientific society, and the latter loses the inspiration from young enthusiasm which in Germany is found so useful. He slyly adds that this is a striking example of the democratic conception of freedom and equality in America. "With all its external democratic form it does not exclude a far-reaching social exclusiveness." He also comments on the difference between American and German gynecology; the American gynecologists do abdominal surgery in the widest sense of the term, and not on women alone, while many cut out obstetrics altogether. The society loses, he thinks, by excluding the anatomic, bacteriologic, embryologic and obstetric questions to which the German society pays so much attention. Clinical instruction in obstetrics seems to him rather backward here, which he ascribes to the disinclination of American women to go to a maternity; only 949 of the 6,274 patients in the Lying-in Hospital of New York in 1908 were American born. The lack of reciprocity between the different states impressed him as very strange, as also the enthusiasm for athletics, but he adds that German students might well learn from Americans that it is possible to enjoy their youth without pouring a couple of quarts of beer into their stomach every day. American academic athletics must encroach, he thinks, on the scientific work, but it would be a great gain in Germany if more in this line could be fostered at the expense of the time spent by students in the saloons, the *Kneipenleben*. In conclusion he speaks rather wistfully of the way in which the Germans residing here are fast becoming Americanized. They maintain their national characteristics nearly unmodified in Slavonic, oriental and Latin countries, but they soon blend with Anglo-Saxon civilization.

Infant Mortality.—The problem of infant mortality must be solved in the tenements. By reason of large numbers and gross ignorance the vast majority of deaths occur here. There are many factors which enter into the problem. The milk supply of New York City has been decidedly improved during the last few years, and it is questionable whether a still further improvement which under present conditions would be difficult and expensive, would be followed by a marked lowering of the death rate. The questions of poverty, poor housing, alcoholism, cannot be materially influenced within a few years. What can be done now? It is a significant fact that the infant mortality is highest in those countries in which illiteracy among the women is greatest. The colossal ignorance of the poor on questions of infant feeding and hygiene can be immediately dealt with. Aside from economic and humanitarian considerations the health authorities and physicians are in duty bound to see to it that there is no needless waste of human life. In no department of medicine are proper measures more likely to be followed by rapid and striking results than in the reduction of the infant mortality.—C. Herrman, in *Pediatrics*.

Free Information on Hygiene.—Dr. Irving Fisher says that just as the Department of Agriculture supplies specific information to the farmer concerning the raising of crops or live stock, so another department, devoted perhaps, to health and education, should be prepared to provide every health officer, school teacher, employer, physician and private family with specific information in regard to hygiene.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

INTRAVENOUS INJECTION OF MERCURY SUCCINIMID

To the Editor:—Please answer the following queries:

1. Is it possible to inject mercury succinimid by the intravenous method without harmful effect, and if so, in what dosage?

2. Are mercury and arsenic preparations incompatible when used in the same solution or, if given intramuscularly, at the same time?

3. Could novocain be used with mercury succinimid to deaden the pain of injection?

H. Smith, Los Angeles, Cal.

Answer.—1. There appears to be no reason why mercury succinimid should not be used in the same dosage as other soluble salts of mercury for intravenous injection. The dose recommended is from 2 to 3 c.c. of a 1 per cent. solution, injected once in two or three days.

2. The arsenious preparations, such as salts of arsenious acid and trioxid of arsenic, are reducing agents and hence incompatible with the mercuric salts, which they reduce to insoluble mercurous compounds or to metallic mercury. The arsenates of mercury are insoluble and therefore salts of arsenic acid are incompatible with the mercuric salts. It is stated that atoxyl (sodium arsanilate) is incompatible with compounds of mercury. The reason for this is not certainly known. If a solution of an arsenious compound, and a solution of a mercuric compound are injected separately, the chemical reasons for incompatibility would probably not be valid,

except that if reduction of the mercury compound should occur the mercury might not be so quickly absorbed.

3. As the text-books do not answer this question, it was submitted to the Chemical Laboratory of the Association for Investigation. The report of the laboratory is as follows: "Solutions of mercury succinimid and novocain were prepared separately and mixed, and the mixture allowed to stand over night. No reaction was observed. Hence, there would seem to be no reason why novocain cannot be used with mercury succinimid to deaden the pain of injection."

VASECTOMY AND CASTRATION OF CRIMINALS AND DEFECTIVES

To the Editor:—Please give a bibliography of the more important literature in English on vasectomy and castration of criminals, idiots, insane, etc. J. A. Burnett, Chismville, Ark.

Answer.—Ewell, J.: "Plea for Castration to Prevent Criminal Assault," *Virginia Med. Semi-Monthly*, Jan. 11, 1907.

Belfield, W. T.: "Race Suicide for Social Parasites," The Journal A. M. A., Jan. 4, 1908, l, 55.

"Vasectomy for Confirmed Criminals and Defectives," editorial in The Journal A. M. A., April 3, 1909, lii, 1114.

Belfield, W. T.: "Sterilization of Criminals and Other Defectives by Vasectomy," *Chicago Med. Recorder*, March, 1909; abstr. in The Journal A. M. A., April 10, 1909, lii, 1211.

"The Sterilization of Defectives," a monograph published by H. C. Sharp, Jeffersonville, Ind.

The Public Service

Medical Department of the Army

Changes for the week ended Oct. 16, 1909:

Havard, Valery, colonel, granted leave of absence for three months, twenty-three days.

Woodbury, Frank T., capt., granted leave of absence for two months.

Byrne, Charles B., colonel, granted leave of absence for two months, twenty days.

Hains, Edgar F., 1st lieut., M. R. C., ordered to active duty; will proceed to Fort Moultrie, S. C., for duty.

Hull, Alva R., 1st lieut., M. R. C., granted an extension of fifteen days to his leave of absence.

Wiggin, Dayton C., 1st lieut., M. R. C., granted leave of absence for one month.

Leeper, John F., 1st lieut., M. R. C., relieved from duty at the Army General Hospital, Fort Bayard, N. M., and ordered to Fort Duchesne, Utah, for duty.

Van Kirk, Harry H., 1st lieut., M. R. C., relieved from duty at Fort Duchesne, Utah, and ordered to Fort Levett, Maine, for duty.

Scott, Minot E., D. S., ordered to proceed from South Berkeley, Cal., to Vancouver Barracks, Washington, for duty.

Gunckel, George I., D. S., left Fort Oglethorpe, Ga., for duty at Fort McPherson, Ga.

Ames, John R., D.S., left Fort Lincoln, N. Dak., for duty at Fort Assinniboine, Mont.

Medical Corps of the Navy

Changes for the week ended Oct. 16, 1909:

Fitzsimons, P., medical director, detached from command of the Naval Medical Supply Depot, New York, N. Y., and ordered to Washington, D. C., for duty as a member of the Naval Retiring Board.

Dickinson, D., medical director, detached from duty as a member of the Naval Retiring Board, Naval Examining, and Naval Medical Examining Boards, Washington, D. C., and ordered home to wait orders.

DuBose, W. R., medical inspector, detached from the Bureau of Medicine and Surgery, Navy Department, and ordered home to wait orders.

Lovering, detached from the Naval Hospital, Norfolk, Va., and ordered to command the Naval Medical Supply Depot, New York.

Holeman, C. J., asst.-surgeon, detached from the *Arethusa* and ordered to duty in connection with the *Iris* and to duty on board that vessel when commissioned.

DuBose, W. R., medical inspector, ordered to command the Naval Hospital, Norfolk, Va.

Casto, D. H., asst.-surgeon, detached from the *Concord* and ordered to duty in connection with the fitting out of the *Princeton* and to duty on board that vessel when commissioned.

Gardner, J. E., medical inspector, detached from the Naval Recruiting Station, Boston, and ordered to continue other duties.

Wilson, H. D., surgeon, unexpired portion of leave revoked; ordered to the Naval Recruiting Station, Boston.

Strite, C. E., asst.-surgeon, unexpired portion of leave revoked; detached from the Naval Recruiting Station, Baltimore, and ordered to the *Franklin*.

Public Health and Marine-Hospital Service

List of changes for the week ended Oct. 13, 1909:

Trask, J. W., asst.-surgeon-general, Anderson, John F., P .A. surgeon, detailed to represent the Service at the annual meeting of the American Public Health Association, to be held in Richmond, Va., Oct. 19-21, 1909.

White, J. H., surgeon, directed to proceed to Galveston, Tex., on special temporary duty.

Fager, J. M., surgeon, granted 1 day's leave of absence, Oct. 17, 1909.

Oakley, J. H., surgeon, granted 1 day's leave of absence, Oct. 12, 1909.

Lavinder, C. H., P. A. surgeon, bureau order of Sept. 22, 1909, amended to read on completion of duty enjoined, directed to proceed to Jackson, La., on special temporary duty.

Moors, Dunlop, P. A. surgeon, directed to report to the medical officer in command at San Francisco, for temporary duty and assignment to quarters.

Francis, Edward, P. A. surgeon, on being relieved by Passed Assistant Surgeon Hugh de Valin, directed to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for duty.

Boggess, J. S., P. A. surgeon, granted 3 months' leave of absence from Oct. 15, 1909.

Sweet, Ernest A., P. A. surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Stapleton, N. Y., and report to the medical officer in command for duty and assignment to quarters.

Ashford, F. A., P. A. surgeon, on arrival of Passed Assistant Surgeon Ernest A. Sweet, relieved from duty at Stapleton, N. Y., and directed to proceed to Ellis Island, N. Y., and report to the Chief Medical Officer for duty.

De Valin, Hugh, P. A. surgeon, on being relieved by Assistant Surgeon Charles M. Fauntleroy, directed to proceed to the Mobile Quarantine Station and assume command of the Service.

Krulish, Emil, asst.-surgeon, granted 10 days' leave of absence from Oct. 15, 1909.

Fauntleroy, Charles M., asst.-surgeon, on the arrival of Assistant Surgeon R. H. Lyon, directed to proceed to Savannah Quarantine Station, Ga., and assume command of the Service.

Lyon, R .H., asst.-surgeon, relieved from duty at Reedy Island Quarantine Station, and directed to proceed to New Orleans Quarantine Station, and report to the medical officer in command for duty and assignment to quarters.

Gustetter, A. L., acting asst.-surgeon, granted 5 days' leave of absence from Oct. 13, 1909.

Hallett, E. B., acting asst.-surgeon, granted 7 days' leave of absence from Oct. 12, 1909.

Hume, Lea, acting asst.-surgeon, granted 10 days' leave of absence from Oct. 10, 1909.

Lowthian, E. L., acting asst.-surgeon, granted 27 days' leave of absence from Oct. 4, 1909.

BOARD CONVENED

Board of medical officers convened to meet at Seattle, Wash., Oct. 6 and 7, 1909, for the purpose of examining an alien. Detail for the board: Passed Assistant Surgeon M. W. Glover, chairman; Assistant Surgeon C. W. Chapin; Acting Assistant Surgeon F. R. Underwood, recorder.

Health Reports

The following have been reported to the Public Health and Marine-Hospital Service, during the week ended Oct. 15, 1909:

SMALLPOX—UNITED STATES

District of Columbia: Washington, Sept. 25-Oct. 2, 2 cases.
Massachusetts: Boston, Sept. 25-Oct. 2, 1 case.
Minnesota: Duluth, Sept. 17-24, 1 case.
Missouri: St. Louis, Sept. 25-Oct. 2, 1 case.
Montana: Butte, Sept. 23-30, 3 cases.
New Jersey: Newark, Sept. 18-25, 1 case.
North Carolina: Charlotte, Sept. 24-Oct. 1, 2 cases.
Ohio: Dayton, Sept. 25-Oct. 2, 2 cases.
Wisconsin: Milwaukee, Sept. 25-Oct. 2, 1 case.

SMALLPOX—FOREIGN

Brazil: Rio de Janeiro, Aug. 23-Sept. 12, 6 cases, 2 deaths.
China: Shanghai, Sept. 1-7, 1 case, on *U. S. S. Wilmington.*
Egypt, general, Aug. 12-19, 101 cases, 16 deaths; Cario, Sept. 2-9, 1 case, 2 deaths.
France: Bordeaux, Aug. 27-Sept. 4, 1 death; Paris, Sept. 11-18, 1 case.
Germany: Konigsberg, Aug. 22-28, 1 case, 1 death.
India: Bombay, Sept. 1-7, 1 death; Madras, Aug. 28-Sept. 3, 2 cases.
Indo-China: Saigon, July 31-Aug. 7, 1 case, 1 death.
Italy, general, Sept. 12-19, 9 cases; Naples, 10 cases, 2 deaths.
Mexico: Monterey, Sept. 19-26, 1 death.
Russia: Moscow, Sept. 4-11, 3 cases, 2 deaths; Odessa, Sept. 4-18, 17 cases, 3 deaths; Riga, Sept. 11-18, 2 cases; St. Petersburg, Sept. 4-11, 8 cases, 6 deaths; Warsaw, Aug. 7-14, 1 death.
Spain: Barcelona, Sept. 13-27, 5 deaths; Valencia, Sept. 11-18, 1 case; Vigo, 2 deaths.
Uruguay: Montevideo, July 1-31, 6 cases.

YELLOW FEVER

Ecuador: Guayaquil, Aug. 27-Sept. 11, 4 deaths.
Mexico: Merida, Sept. 28-Oct. 1, 1 case, 1 death; Tekik, Oct. 1, 1 case.

CHOLERA

China: Chefoo, Sept. 15, present.
Germany: Russ, Sept. 19, 1 case, 1 death, vicinity; Stolzenhagen, Sept. 18, 1 case.
India: Bombay, Sept. 1-7, 27 deaths; Rangoon, Aug. 21-28, 4 deaths.
Japan: Nagasaki, Sept. 9, 7 cases, 1 death, from *S. S. Taim Maru.*
Korea: Chemulpo, Sept. 15, present.
Netherlands: Halsteren, Sept. 1-7, 1 case; Hoogvliet, 1 case; Pernis, 1 case.
Russia: Moscow, Sept. 4-11, 3 cases, 1 death.
Straits Settlements: Singapore, Aug. 21-28, 1 death.
Sumatra: Djambi, July 1-31, 205 cases, 108 deaths.

PLAGUE—INSULAR

Hawaii: Hilo, Sept. 4-11, 1 case, 1 death.

PLAGUE—FOREIGN

Ecuador: Guayaquil, Aug. 27-Sept. 11, 14 deaths.
India: Bombay, Sept. 1-7, 27 deaths; Rangoon, Aug. 21-28, 19 deaths.
Indo-China: Saigon, July 31-Aug. 21, 18 cases, 18 deaths.
Japan: Kobe, Sept. 15, epidemic present; Nagasaki, present in quarantine; Shimonoseki, present.
Mauritius, general, July 15-Aug. 5, 9 deaths.
Morocco: Casablanca, July 15-Sept. 17, 4 deaths.
Siam: Bangkok, Aug. 21-28, 9 cases, 9 deaths.

Medical Economics

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The papers read were suggestive and the discussion which followed was enthusiastic and interesting. A committee was appointed to devise ways and means of cooperation of all the health forces of the state. Minnesota is in a peculiarly fortunate position for undertaking such coordinate work, as the only medical college in the state is the Medical Department of the State University, while the State Board of Health, the State Board of Medical Examiners, the Board of Control (having supervision over all state institutions) and the State Medical Association are all working with the utmost harmony and mutual understanding. Under these favorable conditions and with the best men in the state interested in the work, there is no reason why Minnesota cannot lead in a movement for better and more effective work in public health lines.

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Dr. Wilbur, chief statistician of the Division of Vital Statistics, states that the opportunity of inaugurating the use of the revised classification for mortality statistics in the actual census year is of the greatest value. In accordance with the resolution of the international commission, an official version of the revised titles used in the classification is being prepared in each language represented at the conference. The English translation has been made by Dr. Wilbur, assisted by the other American representatives, and Dr. G. W. Knibbs, commonwealth statistician of Australia. As a result, exactly the same tabular list will be used by all English-speaking countries. The next session of the conference for the revision of the International classification will be held in Paris in 1919, unless other arangements are made. It is the hope of those interested in the advancement of American vital statistics that the third decennial conference may be called by the American government and may meet at Washington.

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DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Second Month—Fourth Weekly Meeting

Diseases of Cerebral Veins and Sinuses

Primary, Marantic, Thrombosis: Etiology.—Age, prolonged illness, cachexiæ. Symptoms.—Preceding disease, venous stasis, local edema, mental symptoms.

Secondary, Infective, Thrombosis: Etiology.—Middle-ear disease, fractures, infections in nose, mouth and pharynx, erysipelas, anthrax. Symptoms.—Preceding infection, local symptoms, brain symptoms, septicemia.

Cerebral Palsies of Children

Etiology: (a) Prenatal conditions, lack of development, prematurity, porencephalia; (b) accidents at birth, protracted labors, vertex and breech presentations, abuse of forceps; (c) postnatal causes, age, infectious disease, injuries.

Symptoms: Hemiplegic cases. Sudden onset, convulsions, loss of consciousness, development of hemiplegia, spasticity, exaggerated reflexes, contractures, attitude and gait. Atrophy of affected side. Athetosis. Tendency to epilepsy. Diplegic cases, may be paraplegic. Usually of prenatal or birth origin. Slow development of cranium, convulsive seizures, rigidity and contractions, upper and lower limbs involved. Lack of mental development, tendency to epilepsy and idiocy.

Monthly Meeting

Varieties of Aphasia and Significance of Each.
The Localization of the Lesion in Intracerebral Hemorrhage.
Early Diagnosis and Treatment of Cerebral Palsies of Children.

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Strümpell: Practice of Medicine.
Osler: Practice of Medicine.
Gowers: Brain and Crainal Nerves, vol. ii.
Mettler: Diseases of the Nervous System.
Sachs: Nervous Diseases of Children.

Nothing New Under the Sun.—It is curious to observe that the present scientific teaching on the basis of demonstrated fact is a return to a much earlier popular conception. Consumption was formerly popularly believed in some localities to be contagious. That belief rested on superficial observation, while the present teaching rests on demonstrated fact.—*Propaganda of the N. Y. State Charities Aid Association.*

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arkansas: Regular, Little Rock, November 9. Sec., Dr. F. T. Murphy, Brinkley.
Connecticut: Homeopathic, New Haven, November 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.
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Louisiana: Homeopathic, New Orleans, November 1. Sec., Dr. Gayle Aiken, 1102 St. Charles Ave.
Maine: Portland, November 9-10. Sec., Dr. Frank W. Searle, 806 Congress St.
Massachusetts: State House, Boston, November 9-11. Sec., Dr. E. B. Harvey, Room 159, State House.
Nebraska: Senate Chamber, State House, Lincoln, November 10-11. Sec., Dr. E. Arthur Carr, 141 South Twelfth St.
Nevada: Carson City, November 1. Sec., Dr. S. L. Lee.
Texas: Levy Bldg., Greenville, November 9-11. Sec., Dr. M. E. Daniel, Honey Grove.
West Virginia: Chancellor Hotel, Parkersburg, November 9-11 Sec., Dr. H. A. Barbee, Point Pleasant.

Kentucky July Report

Dr. J. N. McCormack, secretary of the Kentucky State Board of Health, reports the written examination held at Louisville, July 6-8, 1909. The number of subjects examined in was 10; percentage required to pass, 70. The total number of candidates examined was 124, of whom 107 passed and 17 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Bennett Medical College	(1908)	81
Northwestern University Medical School	(1909)	86
College of Physicians and Surgeons, Chicago	(1909)	78
University of Louisville (1908) 70, 70, 74, 75, 77, 84; (1909) the grades of 70, 71 and 72 were reached by one each; 73 by two; 74 by six; 75 by one; 76 by three; 77 by one; 78 and 80 by two each; 81 by three; 82 by five; 83 by six; 84 by eight; 85 by five; 86 by eight; 87 by one; 88 by four; 89 by five; 90 by seven; 91 by three and 93 by *one*.		
Kentucky School of Medicine (1891) 75;	(1898)	77
Louisville Medical College (1894) 70;	(1907)	83
Southwestern Homeopathic Medical College	(1909)	86
Louisville National Medical College	(1904)	78
Hospital Coll. of Medicine, Louisville (1905) 73;	(1907)	75
Medical College of Ohio (1905) 82;	(1909)	82
Pulte Medical College	(1909)	85, 88
Miami Medical College (1895) 84;	(1909)	75, 79
Eclectic Medical Institute, Cincinnati	(1909)	73
Vanderbilt University	(1909)	82, 87
University of Nashville	(1909)	72, 77
Jefferson Medical College	(1909)	84
University of Virginia	(1907)	91
FAILED		
University of Louisville	(1909)	45, 56, 60, 63, 64, 66, 68, 69, 69, 69
Louisville and Hospital Medical College	(1908)	52, 59, 60, 63
Kentucky University	(1905)	56
Meharry Medical College (1908) 49;	(1909)	64

Wisconsin July Report

Dr. J. V. Stevens, secretary of the Wisconsin State Board of Medical Examiners, reports the written examination held at Madison, July 13-15, 1909. The number of subjects examined in was 21; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates was 50, of whom 40 passed, 8 failed, and 2 were conditioned. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
George Washington University	(1908)	90
Northwestern University Medical School	(1909)	87, 87, 88
Hahnemann Medical College and Hospital, Chicago	(1909)	88
College of Physicians and Surgeons, Chicago	(1909)	89
Keokuk Med. Coll., Coll. of P. & S.	(1900)	82
[illegible] (1908) 81;	(1909)	77
[illegible]	(1909)	82.5
[illegible]	(1909)	80
Creighton Medical College	(1909)	82.5
Columbia University, Coll. of P. and S.	(1909)	87
Jefferson Medical College	(1909)	84
University of Pennsylvania	(1909)	84
University of Virginia	(1908)	89
Marquette University (1908) 75.5; (1909) 75, 76, 77, 79, 80, 80, 81, 82, 83, 86.		
Wisconsin College of Physicians and Surgeons (1909) 75, 75, 76, 79, 79, 80, 80, 84, 84, 85, 87, 87.		
Western University, London, Ontario	(1907)	77
FAILED		
College of Physicians and Surgeons, Chicago	(1909)	69
Wisconsin College of Physicians and Surgeons	(1909)	71
Marquette University (1895) 60;	(1909)	62, 64, 68, 69, 71
CONDITIONED		
Northwestern University Medical School	(1909)	
Marquette University	(1909)	

Marriages

Simon Wendkos, M.D., to Miss Sara Seidman, both of Philadelphia, October 10.

Frank R. Morley, M.D., to Miss Linnie B. Camp, both of Sedalia, Mo., October 1.

William A. Walters, M.D. Chicago, to Katherine Stull, M.D., of Auburn, Neb., October 6.

Rufus E. Fort, M.D., Nashville, Tenn., to Miss Louise Clark of Framingham, Mass., October 12.

Harry Joseph Sheffield, M.D., Narrowsburg, N. Y., to Miss Edna M. Cassebeer, October 1.

John Hunter Selby, M.D., Warrenton, Va., to Miss Delia Slaughter, at Warrenton, October 6.

William R. Marshall, M.D., Butler, Pa., to Miss Alma G. Bradley of Philadelphia, October 9.

Nathaniel Burwell, M.D., to Miss Loraine Turner, both of Shepherdstown, W. Va., October 7.

Nathaniel Thomas Ennett, M.D., to Miss Amy Conyers Tutwiler, both of Richmond, Va., October 6.

Clarence T. Lewis, M.D., to Mrs Van Pelt, both of Staunton, Va., at Washington, D. C., October 1.

Harold Roy Lucas, M.D., Chaffee, Mo., to Miss Mary May Neergaard of Springfield, Mo., September 13.

David T. Martyn, Jr., M.D., Columbus, Neb., to Miss Winnifred Rottger of Mt. Sterling, Ill., October 19.

Davenport White, M.D., New York City, to Miss Maude Cecelie Lambert of Washington, D. C., October 5.

Roy Ernest Leitz, M.D., Musselshell, Mont., to Miss Rosa Waters Ridgely of Washington, D. C., October 7.

John William Moore, M.D., Charleston, W. Va., to Miss Anna Estill Preston of Lexington, Va., October 6.

Chester Waterman, M.D., Central Islip, N. Y., to Miss Eleanor Alicia Atkinson of Yonkers, N. Y., October 6.

Thomas J. Nalley, M.D., St. Louis, to Mrs. Nellie Bradley of Seattle, Wash., at Minneapolis, Minn., October 1.

Frederick Tremaine Billings, M.D., Pittsburg, Pa., to Miss Romaine Le Moyne, at Garrison Forest, Md., October 6.

William Claiborne Powell, M.D., Petersburg, Va., to Miss Sara Breckenridge Early of Campbell county, Va., at Lynchburg, Va., October 5.

Deaths

Joseph P. Cox, M.D. Medical College of Indiana, Indianapolis, 1879; a member of the Wisconsin State Medical Society; formerly president of the Barron-Polk-Washburn-Sawyer and Burnett County Medical Society; a member of the American Association of Railway Surgeons; surgeon to the Chicago, St. Paul, Minneapolis and Omaha Railway, and Red Cross Hospital, Spooner, Wis.; a member of the local board of U. S. Pension Examining Surgeons; was killed in a railway wreck at Trinidad, Wash., September 30, aged 50.

Howard Sumner Dearing, M.D. Dartmouth Medical School, Hanover, N. H., 1882; of Boston; a member of the Massachusetts Medical Society; assistant professor of clinical medicine in Tufts College Medical School, Boston, Mass.; for more than twenty-five years an officer of the Massachusetts Volunteer Militia, retiring with the rank of lieutenant-colonel; major and surgeon of the First Massachusetts Heavy Artillery, U. S. V., during the Spanish-American War; died at his old home in East Waterboro, Maine, from cerebral hemorrhage, aged 52.

John Phillips Reynolds, M.D. Harvard Medical School, Boston, 1852; president of the American Gynecological Society in 1889; a member of the Massachusetts Medical Society; for twenty years professor of obstetrics in his alma mater; for several years a member of the Boston School Committee; physician to the Boston City Hospital, and consulting surgeon to the Boston Lying-In Hospital; died at his home in Boston, October 10, aged 83.

Robert Henry Jones, M.D. Medical College of Ohio, Cincinnati, 1878; formerly a member of the Clay County (Ill.) Medical Society; a member of the local board of U. S. pension examining surgeons; surgeon of the Illinois Soldiers and Sailors' Home, Quincy, in 1897 and 1898; died at his home in Lebanon, Ill., August 5, from paralysis and senile gangrene, aged 86.

Felix Jenkins, M.D. University of Maryland, Baltimore, 1849; of Baltimore; formerly a member of the Medical and

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Louisiana: Homeopathic, New Orleans, November 1. Sec., Dr. Gayle Aiken, 1102 St. Charles Ave.
Maine: Portland, November 9-10. Sec., Dr. Frank W. Searle, 806 Congress St.
Massachusetts: State House, Boston, November 9-11. Sec., Dr. E. B. Harvey, Room 159, State House.
Nebraska: Senate Chamber, State House, Lincoln, November 10-11. Sec., Dr. E. Arthur Carr, 141 South Twelfth St.
Nevada: Carson City, November 1. Sec., Dr. S. L. Lee.
Texas: Levy Bldg., Greenville, November 9-11. Sec., Dr. M. E. Daniel, Honey Grove.
West Virginia: Chancellor Hotel, Parkersburg, November 9-11 Sec., Dr. H. A. Barbee, Point Pleasant.

Kentucky July Report

Dr. J. N. McCormack, secretary of the Kentucky State Board of Health, reports the written examination held at Louisville, July 6-8, 1909. The number of subjects examined in was 10; percentage required to pass, 70. The total number of candidates examined was 124, of whom 107 passed and 17 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Bennett Medical College	(1908)	81
y Medical School	(1909)	86
d Surgeons, Chicago	(1909)	78
(1908) 70, 70, 74, 75, 77, 84; (1909) the grades of 70, 71 and 72 were reached by one each; 73 by two; 74 by six; 75 by one; 76 by three; 77 by one; 78 and 80 by two each; 81 by three; 82 by five; 83 by six; 84 by eight; 85 by five; 86 by eight; 87 by one; 88 by four; 89 by five; 90 by seven; 91 by three and 93 by one.		
Kentucky School of Medicine (1891) 75;	(1898)	77
Louisville Medical College (1894) 70;	(1907)	83
Southwestern Homeopathic Medical College	(1909)	86
Louisville National Medical College	(1904)	78
Hospital Coll. of Medicine, Louisville. (1905) 73;	(1907)	75
Medical College of Ohio (1905) 82;	(1909)	82
Pulte Medical College	(1909)	85, 88
Miami Medical College (1895) 84;	(1909)	75, 79
Eclectic Medical Institute, Cincinnati	(1909)	73
Vanderbilt University	(1909)	82, 87
University of Nashville	(1909)	72, 77
Jefferson Medical College	(1909)	84
University of Virginia	(1907)	91

FAILED

College	Year Grad.	Per Cent.
University of Louisville	(1909)	45, 56, 60, 63, 64, 66, 68, 69, 69, 69
Louisville and Hospital Medical College	(1908)	52, 59, 60, 63
Kentucky University	(1905)	56
Mehарry Medical College (1908) 49;	(1909)	64

Wisconsin July Report

Dr. J. V. Stevens, secretary of the Wisconsin State Board of Medical Examiners, reports the written examination held at Madison, July 13-15, 1909. The number of subjects examined in was 21; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates was 50, of whom 40 passed, 8 failed, and 2 were conditioned. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University	(1908)	90
Northwestern University Medical School	(1909)	87, 87, 88
Hahnemann Medical College and Hospital, Chicago	(1909)	88
College of Physicians and Surgeons, Chicago	(1909)	89
Keokuk Med. Coll., Coll. of P. & S.	(1900)	82
Hamline University (1908) 81;	(1909)	77
University of Minnesota	(1909)	82.5
St. Louis University	(1909)	80
Creighton Medical College	(1909)	82.5
Columbia University, Coll. of P. and S.	(1909)	87
Jefferson Medical College	(1909)	84
University of Pennsylvania	(1909)	84
University of Virginia	(1908)	89
Marquette University (1908) 75.5; (1909) 75, 76, 77, 79, 80, 80, 81, 82, 83, 86.		
Wisconsin College of Physicians and Surgeons (1909) 75, 75, 76, 79, 79, 80, 80, 84, 84, 85, 87, 87.		
Western University, London, Ontario	(1907)	77

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1909)	69
Wisconsin College of Physicians and Surgeons	(1909)	71
Marquette University (1895) 60;	(1909)	62, 64, 68, 69, 71

CONDITIONED

College	Year Grad.	Per Cent.
Northwestern University Medical School	(1909)	
Marquette University	(1909)	

Marriages

Simon Wendkos, M.D., to Miss Sara Seidman, both of Philadelphia, October 10.

Frank R. Morley, M.D., to Miss Linnie B. Camp, both of Sedalia, Mo., October 1.

William A. Walters, M.D. Chicago, to Katherine Stull, M.D., of Auburn, Neb., October 6.

Rufus E. Fort, M.D., Nashville, Tenn., to Miss Louise Clark of Framingham, Mass., October 12.

Harry Joseph Sheffield, M.D., Narrowsburg, N. Y., to Miss Edna M. Cassebeer, October 1.

John Hunter Selby, M.D., Warrenton, Va., to Miss Delia Slaughter, at Warrenton, October 6.

William R. Marshall, M.D., Butler, Pa., to Miss Alma G. Bradley of Philadelphia, October 9.

Nathaniel Burwell, M.D., to Miss Loraine Turner, both of Shepherdstown, W. Va., October 7.

Nathaniel Thomas Ennett, M.D., to Miss Amy Conyers Tutwiler, both of Richmond, Va., October 6.

Clarence T. Lewis, M.D., to Mrs Van Pelt, both of Staunton, Va., at Washington, D. C., October 1.

Harold Roy Lucas, M.D., Chaffee, Mo., to Miss Mary May Neergaard of Springfield, Mo., September 13.

David T. Martyn, Jr., M.D., Columbus, Neb., to Miss Winnifred Rottger of Mt. Sterling, Ill., October 19.

Davenport White, M.D., New York City, to Miss Maude Cecelie Lambert of Washington, D. C., October 5.

Roy Ernest Leitz, M.D., Musselshell, Mont., to Miss Rosa Waters Ridgely of Washington, D. C., October 7.

John William Moore, M.D., Charleston, W. Va., to Miss Anna Estill Preston of Lexington, Va., October 6.

Chester Waterman, M.D., Central Islip, N. Y., to Miss Eleanor Alicia Atkinson of Yonkers, N. Y., October 6.

Thomas J. Nalley, M.D., St. Louis, to Mrs. Nellie Bradley of Seattle, Wash., at Minneapolis, Minn., October 1.

Frederick Tremaine Billings, M.D., Pittsburg, Pa., to Miss Romaine Le Moyne, at Garrison Forest, Md., October 6.

William Claiborne Powell, M.D., Petersburg, Va., to Miss Sara Breckenridge Early of Campbell county, Va., at Lynchburg, Va., October 5.

Deaths

Joseph P. Cox, M.D. Medical College of Indiana, Indianapolis, 1879; a member of the Wisconsin State Medical Society; formerly president of the Barron-Polk-Washburn-Sawyer and Burnett County Medical Society; a member of the American Association of Railway Surgeons; surgeon to the Chicago, St. Paul, Minneapolis and Omaha Railway, and Red Cross Hospital, Spooner, Wis.; a member of the local board of U. S. Pension Examining Surgeons; was killed in a railway wreck at Trinidad, Wash., September 30, aged 50.

Howard Sumner Dearing, M.D. Dartmouth Medical School, Hanover, N. H,, 1882; of Boston; a member of the Massachusetts Medical Society; assistant professor of clinical medicine in Tufts College Medical School, Boston, Mass.; for more than twenty-five years an officer of the Massachusetts Volunteer Militia, retiring with the rank of lieutenant-colonel; major and surgeon of the First Massachusetts Heavy Artillery, U. S. V., during the Spanish-American War; died at his old home in East Waterboro, Maine, from cerebral hemorrhage, aged 52.

John Phillips Reynolds, M.D. Harvard Medical School, Boston, 1852; president of the American Gynecological Society in 1889; a member of the Massachusetts Medical Society; for twenty years professor of obstetrics in his alma mater; for several years a member of the Boston School Committee; physician to the Boston City Hospital, and consulting surgeon to the Boston Lying-In Hospital; died at his home in Boston, October 10, aged 83.

Robert Henry Jones, M.D. Medical College of Ohio, Cincinnati, 1878; formerly a member of the Clay County (Ill.) Medical Society; a member of the local board of U. S. pension examining surgeons; surgeon of the Illinois Soldiers and Sailors' Home, Quincy, in 1897 and 1898; died at his home in Lebanon, Ill., August 5. from paralysis and senile gangrene, aged 86.

Felix Jenkins, M.D. University of Maryland, Baltimore, 1849; of Baltimore; formerly a member of the Medical and

Chirurgical Faculty of Maryland; from 1850 to 1854 resident physician at the University Hospital, Baltimore; died at the home of his daughter in Towson, Md., October 9, from senile debility, following a fracture of the hip, aged 83.

Samuel Carter Van Antwerp, M.D. University of Michigan, Ann Arbor, 1872; a member of the American Medical Association; and once president of the Kalamazoo County (Mich.) Medical Society; secretary of the school board of Vicksburg, Mich., for many years; a veteran of the Civil War; died at his home in Vicksburg, October 4, aged 62.

Henry C. Palmer, M.D. New York University, New York City, 1865; of Utica; a member of the Medical Society of the State of New York; assistant surgeon of a New York regiment during the Civil War; physician to the Faxton Hospital, Utica; died in the Hamot Hospital, Erie, Pa., October 6, from pneumonia, aged 68.

James McClure, M.D. Starling Medical College, Columbus, Ohio, 1864; of Marietta, Ohio; a member of the American Medical Association; assistant surgeon of the Twenty-third Ohio Volunteer Infantry during the Civil War; died in a hospital in Chicago, October 6, aged 74.

Amos Northrop Bellinger, M.D. Medical College of the State of South Carolina, Charleston, 1860; for many years physician to the Charleston county jail; a surgeon in the Confederate service throughout the Civil War; died at his home in Charleston, October 3, aged 72.

Nelson Tillman Chenoweth, M.D. Eclectic Medical Institute, Cincinnati, 1867; Miami Medical College, Cincinnati, 1883; a member of the Indiana State Medical Association; a veteran of the Civil War; died at his home in Windsor, Ind., October 8, from asthma, aged 72.

Charles Arthur Elliott, M.D. Western University, London, Ont., 1894; of Harrison Hot Springs, B. C.; died in Vancouver, B. C., September 30, from the effects of a fracture of the spine, due to a runaway accident a month before, aged 40.

Edward O. Peyton, M.D. Jefferson Medical College, Philadelphia, 1859; a surgeon in the Confederate service during the Civil War; died at his home in Greenville, Va., February 4, from uremia, due to prostatic hypertrophy, aged 75.

Paul Randall Abell, M.D. Long Island College Hospital, Brooklyn, N. Y., 1902; of Norwich, N. Y.; a member and formerly president of the Susquehanna Valley Medical Society; died in Norwich, August 24, from paresis, aged 31.

Augustus F. Tulley, M.D. Cincinnati College of Medicine and Surgery, 1879; of Brazil, Ind.; formerly secretary of the board of health of Clay county; died at the home of his daughter in Mooresville, Ind., October 8, from paresis, aged 63.

Isham S. Burdett, M.D. Missouri Medical College, St. Louis, 1861; a member of the Lincoln County (Ky.) Medical Society; an eye and ear specialist of Crab Orchard; died at his home in that place, April 30, from nephritis, aged 75.

John M. Bearden, M.D. Southern Medical College, Atlanta, Ga., 1881; of Ellijay, Ga.; died in his barn, October 7, from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent.

Eugene A. Gaston, M.D. University of Pennsylvania, Philadelphia, 1867; a member of the Kansas Medical Society and physician of Pratt county; died at his home in Pratt, July 21, from spinal sclerosis, aged 64.

Robert Morrison, M.D. Jefferson Medical College, Philadelphia, 1883; a member of the American Medical Association; died suddenly at his home in Sheridanville, Pa., October 3, from heart disease, aged 54.

G. William Park, M.D. Medico-Chirurgical College of Philadelphia, 1897; formerly of Harrisburg, Pa.; died in the Glockner Sanatorium, Colorado Springs, Colo., October, 2, from tuberculosis, aged 35.

Abraham F. Crans, M.D. University of Buffalo (N. Y.) 1890; formerly of Owego, N. Y., and health officer and trustee of that city; died at his home in Olyphant, Pa., October 2, from heart disease, aged 68.

Charles E. Coppedge, M.D. Kansas Medical College, Topeka, 1906; a member of the American Medical Association; died at his home in Bixby, Okla., August 5, from typhoid fever, aged 39.

Wilbert Henry Monroe, M.D. Rush Medical College, 1884; a member of the American Medical Association; died at his home in Merrill, Wis., October 4, from tuberculosis, aged 53.

Daniel Garrison, M.D. Jefferson Medical College, Philadelphia, 1880; a member of the American Medical Association; died at his home in West Collingswood, N. J., October 4, aged 62.

Reynolds C. Taylor (license, Ill., years of practice, 1877); a homeopathic practitioner of Carmi, Ill.; a veteran of the Civil War; died at his home, October 11.

George C. Potter, M.D. Northwestern Medical College, St. Joseph, Mo., 1882; died at his home in St. Joseph, October 7, from cerebral hemorrhage, aged 57.

William A. Hassler, M.D. Jefferson Medical College, Philadelphia, 1866; died at his home in Allentown, Pa., October 6, from cerebral hemorrhage, aged 68.

John S. Mushat, M.D. University of Virginia, Charlottesville, 1895; of Fountain, Colo.; died at his former home in Birmingham, Ala., September 30, aged 34.

William H. Burroughs, M.D. Medical College of Indiana, Indianapolis, 1886; died at his home in Shannondale, Ind., October 8, from nephritis, aged 59.

Irvin Calhoun Wright, M.D. Washington University, St. Louis, 1873; died at his home in Logan, Ohio, October 7, from cerebral hemorrhage, aged 64.

Orson Valentine Thayer, M.D. Vermont Medical College, Woodstock, 1846; died at his home in Hillcrest, San Diego, Cal., September 28, aged 86.

John W. Huddleston, M.D. Medical College of Virginia, Richmond, 1906; died at his home in Bedford City, Va., October 7, from tuberculosis, aged 33.

J. Thomas Calvert, M.D. University of Tennessee, Nashville, 1882; died at his home in Spartanburg, S. C., October 6, aged 53.

Clarence E. Tinsley, M.D. Louisville (Ky.) Medical College, 1906; died at his home in New Waverly, Texas, September 22, aged 31.

Cyrus Pickett, M.D. Eclectic Medical Institute, Cincinnati, 1870; died at his home in Dunning, Neb., August 7, aged 69.

Joseph Antoine Rodier, M.D. Laval University, Quebec, 1889; died at his home in Montreal, October 4, aged 46.

Society Proceedings

COMING MEETINGS

Hawaiian Territorial Medical Society, Honolulu, November 19.
Medical Association of the Southwest, San Antonio, Tex., Nov. 9-11.
Nevada State Medical Association, Goldfield, November 2.
Southern Medical Association, New Orleans, November 9-11.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Thirty-Fifth Annual Meeting, held at St. Louis, Oct. 12-14, 1909

The President, Dr. John A. Witherspoon, Nashville, Tenn., in the Chair

Addresses of welcome were delivered by Dr. Tinsley Brown, president of the Missouri State Medical Society, and by Dr. Clarence M. Nicholson, president of the St. Louis Medical Society. The response on behalf of the association to these addresses was made by Dr. T. Hunt Stucky, Louisville, Ky.

Officers Elected

The following officers were elected for the ensuing year: President, Dr. Frank Parsons Norbury, Kankakee, Ill.: vice-presidents, Drs. George W. Cale, Jr., St. Louis, and William V. Laws, Hot Springs, Ark.; secretary, Dr. Henry Enos Tuley, Louisville, Ky. (re-elected); treasurer, Dr. Samuel Cecil Stanton, Chicago (re-elected). The invitation of the Wayne County (Mich.) Medical Society to hold the 1910 meeting at Detroit was accepted.

Treatment of Peritoneal Infections in the Light of the Protective Nature of Peritonitis

Dr. Channing W. Barrett, Chicago: The spreading and absorption of infection is a process dangerous to life and inflammation is a reaction beneficial to the patient in the presence of infection. I draw the following conclusions in regard to the treatment of peritoneal infections: 1. Peritoneal infection can be prevented by the greatest care in operative work and by the approved use of such means as are best calculated to prevent peritoneal infection from other sources. An infected appendix is one which, by reason of kinking, the presence of a foreign body, etc., is likely to become infected and should be removed. Pathologic conditions of the intestines, gall-bladder, uterus, tubes and ovaries should receive attention. 2. In the presence of existing peritoneal infection an effort should be made to discover its origin and further infection prevented, if possible. 3. Easily and safely removable sources of infection, such as a badly infected appendix or in some instances an infected kidney, ovary or uterus, should be removed. But when this is done during an acute process it should be done not because the structure is inflamed, but because the source of infection is being thereby entirely or largely removed. 4. All physical activity of the patient, massage, peristalsis, etc., which will tend to distribute infection should be avoided. 5. The development of bacteria in, and their distribution through, the intestinal tract should be lessened by the removal of gaseous fluid contents of stomach, lavage, rectal flushings and, if necessary, as is sometimes the case, by enterostomy during the operation. 6. Whenever and wherever the area of infection can be reached or whenever the infectious material exists in the general peritoneal cavity that can be drained, drainage should be established. The tendency of infection is to break down its limiting wall and to increase its area and the damage done not only depends on the virulence of the infection, but on the area involved. The application of this principle to the treatment of appendiceal infection is: (1) The removal of troublesome appendices before the acute onset of infection; (2) the removal of the infected appendix before any considerable peritoneal infection takes place; (3) drainage of localized appendiceal abscess with removal of the appendix if it is easily found; (4) drainage of the peritoneal infection with the removal of the diseased appendix if easily found, if a localized wall has not formed, the absence of wall or weakness of wall making drainage very urgent; (5) treatment of inflammatory wall is a benign and protective process in conditions interfering with the bowels in a mechanical way when it may have to be disturbed by the existence of the distributing infection; (6) rest, general and local, emptying the intestinal tract, dilution of the toxins and supportive treatment with salt solution should be made use of as in keeping with or without operative treatment.

(*To be continued*)

VIRGINIA STATE MEDICAL SOCIETY

Fortieth Annual Meeting, held at Roanoke, Oct. 5-8, 1909

Case of Chronic Invagination of Sigmoid and Rectum

Dr. E. H. Terrell, Richmond: A medical student, eighteen months ago suffered from obstinate constipation which grew worse; stool was secured with difficulty, and it was liquid and mucus, with sense of insufficient evacuation. Medicines of various kinds were given by mouth and injection. Finally he was referred to Dr. Hazen, an electrotherapeutist. Electric treatment was given for several weeks at regular intervals with marked improvement, and now satisfactory results.

Ova of House-Fly Passed from Child's Rectum

Dr. W. B. Barham, Newsoms: The peculiar worms passed from rectum of a little girl, caused irritation which at first was thought to be piles, but examination showed no hemorrhoids. Hookworms were then thought of. A specimen was sent to Washington, and the report stated that the worm was the ova of the house-fly. I should like to know if others have had any similar experience.

DISCUSSION

Dr. W. A. Plecker, Hampton: I had a similar case in a colored girl, only the worms were in the vagina instead of the rectum. I used a phenol wash and cleaned them out readily.

Case of Rupture of Posterior Wall of Uterus

Dr. R. D. Garcin, Richmond: So far as I am able to find out, this is the only case of the kind in Richmond in the last forty years in which the patient recovered. The patient was a primipara aged 27; posterior occipital presentation, third position. I applied forceps, after consultation, and finally delivered the woman but ruptured the posterior uterine wall. Operation was followed by tedious convalescence and recovery.

DISCUSSION

Dr. W. E. McGuire, Richmond: About a year ago I was called to see a patient at 4 a. m. I took her to the hospital at 8 o'clock. The patient was lying very comfortably in bed and had no pain; I did not examine her. The obstetrician arrived at 11 o'clock. I opened the abdomen and found a large dead baby in the abdomen up under the liver, the placenta in the abdominal cavity, and the uterus torn three-fourths of the whole circumference. Only about a quart of blood had escaped; the uterus was well contracted. I did hysterectomy, the patient recovered and in eighteen days left the hospital.

Dr. Garcin: My case occurred in 1907.

Acid Intoxication

Dr. Douglas Vanderhoof, Richmond: I have reported two cases of acid intoxication to the Richmond Academy, and in the past summer found the fourth case. This condition is characterized by two signs, peculiar breathing, very rapid and very deep, different from that in pneumonia, which is very rapid but shallow; and by fruity, sweet-smelling odor to breath, which fills the room. The urine is loaded with acetone. The treatment is not generally understood. I saw one case in which the diet had been cut down to almost water alone. These patients need sugar, their condition is that of the diabetic who is dying. Their high temperature burns up carbohydrates. I give ordinary cane sugar by mouth, every two hours. If the patient cannot swallow I give the sugar under the skin.

Dilatation of Uterus

Dr. M. W. Peyser, Richmond,: This paper deals with the substitution of painless for painful dilatation of the uterus. Usually this procedure is very painful. Recently I have been doing dilatation with the negative pole of a battery. In one case at first the os would hardly admit the smallest sound; at the end of the fourth treatment it admitted No. 35 French.

SYMPOSIUM ON PNEUMONIA

Lobar Pneumonia in Children

Dr. W. E. Anderson, Farmville: Lobar pneumonia in children does not differ much from the disease in adults. If Holt were in Virginia, and away from the crowded districts of New York, he would not have written some things he has in his book. Children in congested districts are always badly nourished, and that is a cause of the high mortality. Lobular pneumonia is more usually a complication of pertussis, measles, etc. Disturbance of pulse and absence of vesicular murmur are points in diagnosis. It is hard to give medicines, or even enough water, on account of dyspnea. Relief comes more quickly to children than to adults. More fatal cases follow measles than any other disease. Generally these children have too little fresh air and too much cover. More air early means less need of the oxygen tank later. Oil silk interferes with the action of the skin, is uncomfortable, and there is danger of taking cold when it is removed. In breast-fed infants water should be given before nursing, as it helps elimination and dilutes the milk. Tincture of strophanthus, one drop and up, may be given according to age; rarely digitalis is necessary. A mustard bath is good. I am convinced that we give too much medicine.

Treatment of Pneumonia

Dr. W. A. Plecker, Hampton: The patient should have the purest air possible. A low temperature is stimulating, but the patient must be kept warmly covered. Fresh-air treatment now meets with less opposition than formerly. The bowels, skin and kidneys must be stimulated for elimination; water should be given freely. Salt solution may be given subcutaneously if there is falling blood pressure. Creosote enhances the antiseptic value of blood. If the pulse be kept below 100 the patient's chances for recovery are better. There is a revulsion of feeling in regard to alcohol; there are better agents, except in case of old topers. The mortality is 15 per cent. lower when it is not used. Sleep is of more value to children than either food or medicines.

DISCUSSION

Dr. Hawes Campbell, Enfield: Mortality from pneumonia in country practice is not nearly so great as stated in the average text-book. I see from 30 to 40 cases in Tidewater every winter, and I can truthfully say that the mortality is not over 10 per cent. The amount of toxemia is not dependent on the size of the area involved. I am not prepared to join in the crusade against coal-tar derivatives. I recall one case in which the temperature remained 106 F. some hours. A sponge bath made the patient purple; I gave phenacetin guarded by caffein, and believe that the child owes its life to this prescription. I abandoned digitalis, as it produces a jerky pulse; strophanthus is better.

Dr. Thomas, Washington, D. C.: It has beeen noticed of recent years that abdominal symptoms are present in pneumonia. Abdominal operations have been done when the patient had pneumonia. This mistake is a serious one, as pneumonia usually contraindicates operations. Many of these operations are never reported. An early symptom in children is exaggerated breathing in the opposite lung.

Dr. R. K. Flannagan, Charlottesville: As a health officer, I want to say: Quarantine against measles as much as against smallpox. The sooner we do this, the sooner we will reduce the mortality of pneumonia.

Dr. T. M. Cherry, Norton: I have not heard anything of the mud-poltice, and I am glad of it. I seldom use alcohol and am still looking for a specific.

Clinical Significance of Aërophagia

Dr. Douglas Vanderhoof, Richmond: The term aërophagia is often erroneously used for fermentative dyspepsia. It is a condition similar to "wind sucking" in horses, and is a neurosis.

DISCUSSION

Dr. M. W. Peyser, Richmond: In some cases the condition is due not to swallowed air but to gas passing from the blood vessels. If the patient's attention is distracted the belching then stops.

Dr. A. G. Brown, Jr., Richmond: This is one of the symptoms of angina pectoris not in the text-books.

Paratyphoid

Drs. J. S. Sellers and H. T. Hoskins, Weyers Cave: The literature on this subject is scarce. The Germans claim that the disease is due to a germ in meat. I treated three patients in one family—the first on March 26, the second four days later and the third nine days later. Water was obtained from an old cistern. Uncooked vegetables may be responsible for paratyphoid in many instances.

What the Practising Physician Can Do in Prevention of Typhoid Fever

Dr. L. L. Lumsden, Washington, D. C.: Preventive measures are known, but it is a problem to carry them out. Typhoid is fourth in the mortality list, in the United States. Careless disposal of excreta is nearly always the cause. The conduct of the physician at the house and in the sick-room, washing hands when leaving, etc., is an example to the family. He should advise only those measures that can be readily carried out—boiling the water, scrubbing hands, and isolation. Country physicians should have properly constructed earth closets as an object lesson. They should also cooperate with the health officers.

DISCUSSION

Dr. A. W. Freeman, Richmond: Typhoid is largely a rural disease. In August nearly 4,000 cases were reported in Virginia, of which three-fourths were in the country or small towns. The place to prevent its spread is at the bedside of the patient. Three points only are to be borne in mind in dealing with excreta, viz.: keep off of ground, keep dry, and keep flies away, till disposed of.

Economic Value of Early Diagnosis of Pulmonary Tuberculosis

Dr. Truman A. Parker, Richmond: The average practitioner can diagnose tuberculosis if careful. Physical signs are not necessary. Two or three negative sputum examinations do not exclude tuberculosis. Family history is not necessary. A few symptoms, such as slight loss of weight, little cough, paleness of mucous membranes, are suggestive. Subnormal morning temperature, followed by a rise to 99 or 100 F., is strongly suggestive. Fit of clothing may give hint of loss in weight.

DISCUSSION

Dr. Tuxberry, Catawba Sanatorium: I do not think Dr. Parker laid stress enough on combining the clinical picture with the physical diagnosis.

Dr. A. L. Gray, Richmond: Physical diagnosis is only to be added to the *x*-ray. I maintain that with the *x*-ray diagnosis can be made earlier than by any other means. Tuberculin reacts sometimes when tubercle bacilli are not present. Depth of shadow is an index of activity of disease.

Dr. W. A. Plecker, Hampton: There are very few greater responsibilities than that of diagnosing a case of tuberculosis. General practitioners do not see enough cases to become skilful.

Dr. Thomas, Washington, D. C.: I agree with Dr. Tuxberry that physicians should be encouraged to make physical examinations. It makes great difference to a patient to say that he may have tuberculosis. We should take this into consideration even in provisional diagnosis.

Dr. Parker: Carry in mind the little points mentioned in the text-books. If quinin does not relieve the temperature, watch the patient closely.

Treatment of Fractures Involving the Elbow

Dr. A. R. Shands, Washington, D. C.: I urge operative treatment of these fractures in children when the *x*-ray shows improper position of the fragments. After operation I put up the elbow acutely flexed (Jones' position). I insert drill through the fragments and let it project through the dressings; I leave this for two weeks. It is an ideal method. The plaster dressing is removed in three weeks. Perfect functional result was obtained in over 20 cases. Ischemic paralysis may occur if the splints are too tight. It is important to take *x*-ray picture in more than one plane.

Sterilization of Criminals

Dr. C. V. Carrington, Richmond: This procedure is new and hedged about by ideas of cruel and unusual punishment, but it is far-reaching in its deterrent effects. Four states —Indiana, Utah, Connecticut and California—have laws permitting this operation. The first-named state has sterilized several hundred men. Reproduction of criminals should be prevented. I do not say which criminals should or should not be sterilized. Simple operation, resection of the vas deferens, generally under cocain, is done through a small incision which is then closed by one or two stitches. I have sterilized four men in the penitentiary. Good results were obtained in the first two; the third and fourth are too recent to report final results.

DISCUSSION

Dr. E. T. Brady, Abingdon: Sterilization of epileptics is as important as criminals and is closely correlated. One county in this state is noted for epileptics, and this county has the record for crime. It is hard to get legislators to agree.

Dr. L. G. Pedigo, Roanoke: If we read Lombroso and Nordau on heredity we find epilepsy interchangeable with criminal types. Sterilizing criminals only shuts off a small source of supply. The whole group of neuroses breeds degenerates and criminals in one generation, and perhaps genius in the next.

Dr. C. V. Carrington: I do not advocate this operation as a punishment, but as a health measure, though I do think it well to stop the breed. I have operated only on insane patients. The testicles do not atrophy.

Syphilis and the Negro

Dr. Thomas W. Murrell, Richmond: There is a lack of statistics and consequent ignorance on this subject. Southern men are most conversant with things standing in the way of the advancement of the negro. There are no statistics by the census bureau on this subject south of the Potomac and Ohio rivers, where 28 per cent. of the negroes live. During slavery days he was made to preserve his body; his master's own physician attended him when sick; good hygiene and care caused him to outstrip the whites in fecundity. After that period he was free, not only to live, but to die as well, and to be infected with every disease. Disease and dissipation have done their work well. Then there were only a few insane negroes, confined in almshouses and jails; now 1,500 are confined in the Virginia state asylum, an increase of over 1,000 per cent. Tuberculosis is often spoken of as a scourge, but there must be twenty syphilitic negroes to every tuberculous one. There is greater prominence of pustular syphilides, indicating less resistance. Serotherapy is the only hope, but till it is perfected mercury and potassium iodid must be given by mouth. Pain is too dreaded by the negro to permit hypodermic medication and he will not take the trouble to use inunction. Every syphilitic should be registered and forced to take treatment.

DISCUSSION

Dr. P. B. Barringer, Blacksburg: I am glad to see the younger men taking up this subject. Syphilis produces abortion and so prevents reproduction. The negro carries diseases to give them to the white man, as uncinariasis.

Dr. H. E. Jones, Roanoke: The only defect in Dr. Murrell's paper is that he fails to give us a remedy. I think one great preventive is circumcision; the Jews are less susceptible to the infectious and contagious diseases for this reason. The people of a certain South Sea island were free from all infectious diseases till they were infected with syphilis by English sailors; tuberculosis then broke out and practically depopulated the island. Immunity was destroyed by incurring syphilis. Circumcision will tend to help acquire immunity.

Dr. L. G. Pedigo, Roanoke: One factor in cutting down fecundity is miscegenation. Another factor in thinning the ranks is the congestion in railroad towns; also the tremendous development of the cocain habit. Immigration from Europe increases the white but not the colored population. This giving away of the inferior to the superior race is seen in New Zealand in the gradual extinction of the Maoris. The only hope of the southern part of the United States is just these forces, leading to the gradual extermination of the negro.

Dr. Brady, Abingdon: The time has arrived when we should inject these sociologic questions into our meetings. Syphilis is a terrible menace, and it is providential that tertiary syphilis is not communicable; otherwise our children would be in great danger of infection from nurse-maids.

Dr. C. M. Miller, Richmond: I have found in dispensary practice that a little potassium iodid is good for a negro with any disease. Gumma of the throat is frequent. Their response to antisyphiltic remedies is marvelous.

Dr. T. W. Murrell: In this matter we have a problem such as exists probably in no other part of the world. A large percentage of students in our medical school are from the North, and they say they had no idea of the prevalence of syphilis in the negro.

Duty of the Physician to His Municipality

Dr. Roy K. Flannagan, Charlottesville: The public is not alive to the good of health departments. The health department is absolutely dependent on the physician for reports of preventable diseases. With increasing knowledge, people are falling into line. The council needs the physician; the school board needs his qualities of heart and head and hand. He owes expression of his thought to the public either by spoken or written word. Each physician bears his torch; it should be a flaming arc light. On the medical profession depends largely the checking of the social evil, if it is ever to be checked. I deplore the sentiment that seals the physician's lips to the secret in reference to the victim of marital infidelity. It is his duty to get closer in touch with his professional brethren in the local society. There should be a publicity committee to enlighten the laity on the problems confronting society as it affects them. Every agency is ours to use, not bound by sectarian tenets.

Pellagra

Dr. Vanderhoof, Richmond: I wish to place on record a case of pellagra brought to Richmond by Dr. J. W. Smith, of Cumberland. The patient is a white woman, aged 45, a farmer's wife. Past history is negative. Since last April she has had a peculiar vertigo, with headache; she feels continually as if she were drunk. The backs of the hands peeled off; there was parchment-like erythema, like sunburn, half way up the arm. She had chronic diarrhea for the past six months, from four to six bowel movements a day. There was characteristic melancholia, which to a stranger was not marked, but her physician said that there was distinct mental change. There was no stomatitis, but a gumboil. There was no ataxia; the reflexes were active but not exaggerated. Blood examination showed anemia. Urine was negative, except excess of indican; stools negative except excessive mucus. She has grown progressively worse; the hands exfoliated a second time. She developed stomatitis, continued to lose weight and the mental symptoms became more serious. The interesting thing is that she has not used corn diet, does not eat corn products half a dozen times a year and does not use corn whisky.

Clinical Aspects of Hyperthyroidism

Dr. McCaw Tompkins, Richmond: Slight cases are often overlooked and diagnosed as neurasthenia, hysteria, etc. Cases are of two kinds, nervous and toxic. Most cases never progress beyond a certain point. There is a widespread belief that surgery offers promise of relief, but the mortality is high and myxedema may be thus substituted.

Present Status of Treatment of Goiter

Dr. LeGrand Guerry, Columbia, S. C.: This is one of the splendid achievements of modern surgery when we consider the mortality and certainty of cure. Ten years ago the mortality was from 10 to 20 per cent. Surgeons were only willing to operate when forced to, a fact which explains the percentage. There are two classes of goiter—simple and exophthalmic. Medicine cannot influence the encapsulated gland. In simple goiters occurring at puberty, recovery generally ensues. If the thyroid grows after the age of 35 it is wise to suspect malignancy. There is hardly a class of cases which can be approached with better chance of cure. The patient should be made to understand that the good gland is left *in situ* and only the tumor removed. Nature gives one-sixth as much blood to the thyroid as to the brain. Serotherapy is not uniform in results. Drugs should be given only reasonable trial; if no result, surgery should be tried.

DISCUSSION

Dr. Royster, Raleigh, N. C.: The most encouraging improvement in surgery in the last five years is that of the thyroid and the prostate. In thyroid surgery this is due to the greater knowledge of pathology. Study after removal gives the keynote for treatment. If little blood is lost mortality is almost *nil*.

Dr. A. L. Gray, Richmond: With the *x*-ray in the hands of a competent man definite good may be expected in 75 per cent. of cases, with a fair number of cures. Early cases are more amenable. The *x*-ray is of value both before and after operation.

INDIANA STATE MEDICAL ASSOCIATION

Sixtieth Annual Session, held at Terre Haute, Oct. 7-8, 1909

(Continued from page 1320)

Heredity and Disease

Dr. Joseph Collins, New York: It is now a part of the intellectual creed of the educated that man is a product of evolution, due largely to natural and sexual selection and adaptation. Modern civilization and humanitarianism have cramped the action of these and from the point of evolution man has ceased to progress. If there is to be a renaissance the primary factors of evolution, variation and heredity, must be discovered. The physician has unique opportunity for doing this. He learns that heredity is the most important factor in his effort to interpret and thwart disease. His attitude toward disease has changed. It is to prevent. To obviate predisposition is frequently paramount to preventing disease. The physical basis of inheritance is the fertilized ovum. Initial heredity is dual, as stated by Galton, who formulated the law of ancestral inheritance, and by Karl Pearson, who shows its application, and as shown by the law of Mendel, which defines the dominant and recessive units concerned in the constitution of organisms. Complete family records properly interpreted will reveal the secrets of heredity in disease. Acquired characteristics are not transmitted. We can do little to influence succeeding generations through nurture, but a great deal by aiding Nature. Hereditable diseases of the blood, muscular and nervous system are most striking, but especially striking are the abiotrophies of Gowers. A predisposition to disease is inherited and there is evidence to show that at least partial immunity may be inherited. The departures from normal termed degeneracy are inherited and the functional diseases of degeneracy are remarkable for their interchangeability, and the same neuropath may have at different periods of life epilepsy, tic, hysteria, psychasthenia and migraine. Insanity is definitely related to pathologic heredity and nervous exhaustion may be an expression of inadequate neural endowment. Predisposition encompasses the hereditability of infections and parasitic diseases. The study of prevention has directed the keenest efforts of the profession toward the microbic causes of disease to the neglect of the most important factor, heredity. Present-day humanitarianism seeks to benefit the individual, but if the object is the improvement of the human race the biologist and the student of heredity should be taken more intimately into counsel. Galton tells us "the first object of eugenics is to check the birth-rate of the unfit," and if the land shall not be desolate because of them that dwell therein for the fruit of their doing, we must increase the birth-rate of the fit. The physician should enlarge the sphere of his usefulness by studying biology, for, as Descartes said, if man is to be perfected the means of perfecting him must be sought in the medical sciences. Let us to our task.

President's Address: The Art of Medicine

Dr. George D. Kahlo, French Lick: Scientific research has given us an insight into disease scarcely dreamed of a generation or two ago. Modern sanitation has eliminated many of the greatest human scourges and diagnosis is approching an exact science. Yet in spite of this progress there is a widespread tendency in the public to self-treatment and the acceptance of occult doctrines which can but result in needless suffering and the actual sacrifice of human life. The education of the public in medical and sanitary matters in order to procure needed legislation has contributed to this tendency to self-treatment, as has also the tendency of the profession to become laboratory experimenters rather than clinicians. The patient wants relief. Also there is the belief that medical treatment always means drugs. Great epidemics of contagion have been eliminated, but modern life and luxury have developed neuroses and psychoses in the cure of which psychic influences play an important rôle, and ridicule cannot overcome these cults. Medicine is still an art. To attempt to treat a purely psychic condition by physical means is just as illogical as to rely on mental healing for the relief of physical ailments. In the borderland cases the art of the physician comes into play, and the criticism that we are sacrificing our art on the altar of science is not altogether unjust. Medicine is no longer shrouded in mystery, and treatment that is so narrowed by orthodoxy and so hampered by scientific prejudice that it is lacking in that most valuable of all good qualities, common sense, is inevitably calculated to discredit the medical art.

Cesarean Section as a Means of Rapid Delivery in Eclampsia

Dr. Walker Schell, Terre Haute: Cesarean section has its place and offers a valuable resource when rapid delivery must be accomplished in eclampsia. Its mortality has sunk to 10 per cent. in all cases, and to 2.5 per cent. in patients uninfected by previous attempts at delivery. Eclampsia occurs in about 1 per cent. of all pregnant women, the mortality in the mothers is 25 per cent. and in the children 50 per cent. Section, therefore, with its low mortality, offers the safest and quickest means of delivery, less traumatism being inflicted than by attempts at dilatation or rapid forceps extractions. The mother operated on at seven months and the living child presented here are evidence of its value.

DISCUSSION

Dr. Miles F. Porter, Fort Wayne: The case of the mother and child presented by Dr. Schell is a strong, clear and forcible illustration of a man being guided by surgical judgment and wisdom rather than by the worship of tradition, and we should not lose sight of the fact that by a clean surgical operation he has avoided the subsequent morbidity entailed almost unavoidably by the so-called obstetric procedures.

Results of Neglected Appendicitis

Dr. B. VanSweringen, Fort Wayne: Early operation is indicated in practically all cases, and from this point of view the appellation, "neglected," is correct, not always on the part of the physician, but many times by the patient or his family. The Germans are too conservative in treatment, waiting for suppurative processes to become walled off. In the meaning of this paper, these patients are neglected because the time was when this disease could have been cured by operation, without abscess forming and without complications and sequelæ such as phlebitis and pylephlebitis of various veins, abscess of the liver, pelvic inflammation, necrosis of the intestinal walls, fistulas, pneumonia, pleurisy, ileus, adhesions, etc. The dictum of Moynihan that in many cases of abscess the removal of the appendix is unnecessary is not always wise practice. In fatal cases, adhesions do not form and when present they are evidence that the body's defensive powers are capable of dealing with the infection already present and therefore the diseased structures should be ablated whenever possible.

DISCUSSION

Dr. George J. Cook, Indianapolis: In recent years the neglect is not so often with the general practitioner, because he is able now to recognize these cases quickly and if he does not operate himself he refers them to a surgeon. The people also are becoming better educated to the importance of operation and do not so often object to prompt action. In the case of a little girl who had eaten some raw turnips a bellyache following in a few hours was diagnosed by two general practitioners appendicitis, and operation within twenty-four hours from the onset revealed a gangrenous appendix. That could not be said to have been a neglected case. The surroundings also determine sometimes whether one can do an immediate operation or whether one must trust to an ice bag and strychnin and starvation. Suppose a physician has a case of general peritonitis on the third day, with pulse of 130 or 140 and a high temperature? If he operates the shock of the anesthetic and a complete operation will kill the patient. My rule in such cases is to adopt the Ochsner treatment plus an opening in the abdomen done under local anesthesia to let the pus and serum out.

Dr. David Ross, Indianapolis: I have sometimes doubted whether it is these acute cases in which the patient most unquestionably can be and, every one agrees, should be operated on, that are the most neglected. I think we meet these cases most frequently in children in whom there are so many things which might cause abdominal pain. The physician is likely to make a snap diagnosis of colic and let it go at that. These children recover, but have attacks again and again until finally some one makes the diagnosis when the time for operation has passed. These are the most frequently neglected cases. In many instances the worst features of cases that prove to be chronic appendicitis are not the localized conditions about the appendix, but certain forms of nervousness or general ill health, and when the diagnosis is finally made and operation done the nervousness and ill health disappear. Morris of New York calls attention to the fibrous appendix that may cause general symptoms of ill health and make life a burden without being a menace to it; the symptoms clear up when the patient is operated on. These might be termed cases of neglected appendicitis.

Dr. A. M. Hayden, Evansville: There are many cases of catarrhal appendicitis producing distress in the stomach. The condition is often called dyspepsia, and the appendix is not suspected by the patient. I believe eight-tenths of all cases of chronic indigestion are due to some disturbance about the appendix, involving the ascending and transverse colon. Sometimes the symptoms are negative. The patient may complain of pain, but with no increased pulse or temperature, and operation reveals a gangrenous appendix. I recall such a case in a girl 16 years old, in whom within twenty-four hours from the commencement of the attack, gangrenous appendix and cecum were found. This class of cases is overlooked by the surgeon, as well as by the general practitioner.

Dr. Joseph R. Eastman, Indianapolis: When we compare the teaching of men like Deaver, who says operate in every case on the spot, and Ochsner who says put on an ice bag, give strychnin and wait, one's first impression is that both are incorrigible liars, for one operates at once in about as large a number of cases as the other; I confess I am frequently in a quandary as to what to do. I recently had a patient who worked in the harvest field until 4 o'clock one day, and I operated on him the next day immediately after noon, and following the knife wound the pus flowed profusely. It seems inconceivable that so much pus could develop in such a short time, but it has been suggested that possibly the peritoneum can secrete fluid with the same rapidity that it can absorb fluid.

Dr. Schmauss, Alexandria: If the heart be examined in cases of appendicitis pursuing a rather virulent course, not infrequently an endocarditis will be found, which is a serious condition, and unless attended to may lead to permanent crippling of the organ. I do not agree with Dr. Cook that physicians as a general rule recognize appendicitis; I have been surprised to find typical cases being treated as typhoid, and I know of two patients who died recently in whom the disease was not recognized as appendicitis.

Dr. H. O. Pantzer, Indianapolis: A class of cases of neglected appendicitis not referred to here should be mentioned, in which pus is early secreted and the patient makes an apparent recovery by the discharge of the pus through the bowel. These patients recover slowly and weeks of absorption of pus give rise to hyaline degeneration of all the glandular organs, particularly in young individuals. I remember one case in which the family congratulated itself that they had escaped the surgeon. The child recovered seemingly, and in two and a half months was sent back to school. But in less than two years she died with parenchymatous nephritis.

Iliohypogastric Hyperesthesia

Dr. M. A. Austin, Anderson: We have too long denied the possible relation between functional disorders and a mental state. In no class of cases does the surgeon find so many contradictory results and wasted effort as in pelvic complaints of women. Certain nerves, because of some peculiarity of location, exposure or function, are susceptible to irritation resulting in what is termed neuralgia. The lumbar plexus with its ramifications and connections principally through the ilioinguinal and iliohypogastric, are in direct contact with the entire urogenital tract, and often troubles ascribed definitely to ovaries or appendix may be due to tissue relaxation and visceral ptoses, diminished blood-pressure and vascular impoverishment or a hypersensitive urogenital tract. *Eighty per cent.* of women seen by physicians have floating kidney, which is but an index of tissue relaxation, and permanent cure by a year or two of physical culture and development is better than doubtful relief by fixation. *Too many women are operated on* when no pathologic changes are found, though real changes are frequent enough. The ilioinguinal region offers brilliant results to the conscientious application of suggestive therapeutics, and physical development does more than *surgery or* medicine in this class of cases, particularly in young and unmarried women, in whom a morbid mental tendency may have been created by too much misdirected treatment. This article is a plea for more simple measures, hygiene, elimination, proper support of the viscera, vibratory or other massage, electricity, or even if necessary sometimes the nerve-blocking alcohol treatment of Schlösser, and the *fostering of a corect* mental attitude in the patient.

DISCUSSION

Dr. J. H. Ford, Indianapolis: Many cases of obscure pelvic pain may be due to a relaxation of the sacroiliac joint, which Kellogg of Boston and Bland of Washington have demonstrated has more or less movement, following a wrench or injury. The pain may be severe in the interpelvic region, in the sciatic region or down the thigh. The diagnosis is determined, as well as relief afforded, by a supportive strapping of the pelvis by adhesive plaster.

(To be continued)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Fifty-ninth Annual Session, held in Philadelphia, Sept. 27-30, 1909
(Continued from page 1323)

SYMPOSIUM: THE MUNICIPAL MANAGEMENT OF COMMUNICABLE DISEASE

The Rôle of Microzoa in the Causation and Transmission of Communicable Disease

Dr. Joseph McFarland, Philadelphia: Bacteria and other fungi maintain an indefinite existence under uniform conditions. The only known modification is entrance on a resting stage in the form of spores. These spores are able to grow and multiply when proper substratum is provided. With protozoan parasites the life history is more complex. In some cases parasites may be transplanted directly from the blood of one animal to another, but in most cases they pass indirectly through some other animal, or after transformation in the parasitic organism in the outer world. The patient and the infectious agents in his body are to be considered in most infectious (bacterial) diseases, but insect hosts and infectious agents in their bodies are also to be considered. Knowledge of the lattter group is but in its inception and made difficult by our inability to recognize many of the parasites because of small size or other peculiarities.

Etiologic Factors in Scarlet Fever

Dr. Jay F. Schamberg, Philadelphia: The streptococcus bears much the same relationship to scarlet fever that it does to smallpox. The influence of cutaneous burns and surgical operations under anesthesia are depressing factors increasing the susceptibility to scarlet fever. Most of the scarlatinoid eruptions occurring after burns represent the exanthem of scarlet fever. Such patients, even though they present an incomplete syndrome of the disease, should be perfectly isolated. Under certain conditions children may carry around in their throats the germs of scarlet fever and develop the disease only after the depression of the vital forces by a burn, surgical operation or other cause. There is *no proof* that infection is resident in the desquamating epithelium of scarlet fever; on the other hand, there is both clinical and experimental proof that infection resides in the discharge from the ears, nose and throat. The condition of these cavities may be *regarded, therefore,* as a safer criterion for the prolongation or cessation of isolation than the termination of the stage of desquamation.

Food Supplies Likely to Transmit Disease

Dr. M. B. Ahlborn, Wilkes-Barre: Concerning milk and milk products the most important prophylactic measures are education of the public regarding infection and the creation of public sentiment in favor of clean food supplies. There should be sensible sanitary legislation and its strict enforcement by trained sanitarians. There should also be supervision of all dairies, farms and cattle and of all employees on farms or in daries, and rigid inquiry made into the health of all cattle and employees handling milk. In cities there should be compulsory registration of all dairies at stated intervals, as to location, methods of handling products, and chemical and bacteriologic examinations should be made regularly. Regarding meat, fish and shellfish, supervision should be required of all slaughter-houses and carcasses of animals killed for food, with the regulation of the health of those engaged in the production of meat products. Rigid attention should be given to cleanliness in storage and shipping. Sale should be prevented of fish and shellfish taken from contaminated waters. No human manure should be used on truck farms or contaminated water employed in the washing of vegetables and fruits. All vegetables and fruits should be protected from dust and insects when exposed for sale.

What Shall We Do About Trachoma?

DR. CLARENCE P. FRANKLIN, Philadelphia: Trachoma was originally an alien disease, but is now acclimated. It interferes with the "workability" of the eyes of adults and children, and thus is a menace to the public welfare. Interest should be aroused to accomplish its elimination. There is need of more active interference with the course of the disease in Pennsylvania, of trachoma hospitals and trachoma schoolhouses in this state as are successfully maintained abroad.

Quarantine and Isolation

DR. WILLIAM M. WELCH, Philadelphia, explained the object of isolation and enumerated the diseases requiring the enforcement of the measure. He emphasized the importance of the procedure and described effective methods. He also considered restrictive measures applicable to the well members of the household. The duration of isolation must vary, he said, in different communicable diseases.

Disinfection

DR. JAMES J. QUINEY, Easton, said that many disinfectants generally employed are of questionable value. There should be careful disinfection of eating utensils, medicine and drinking glasses, clothing, bedding, etc. The cleansing of floors, woodwork and furniture should be thorough. No cuspidors should be allowed. The paper deals further with the disinfection of discharges from nose and throat, of excreta, water used for bathing purposes, of the patient and nurse, of room and furnishing, the preparation of the room for disinfection, and with the materials used for fumigation.

SYMPOSIUM: STATE APPROPRIATIONS TO HOSPITALS

What Pennsylvania Is Doing

DR. JOHN B. ROBERTS, Philadelphia, gave a short history of the origin of the present system of making appropriations to hospitals not under state control by the legislature of Pennsylvania. He mentioned the benefit that had come from these appropriations in giving all sections of the State Hospital facilities with the accompanying valuable training of nurses and doctors. He seemed to think that these advantages were offset by the manner in which the appropriations were granted by the legislature without any definite restrictions such as the law supposed would be thrown around the appropriation system by the investigations made by the board of public charities. He showed that hospitals were granted large sums for maintenance even before the institutions were built in some instances, and that in some cases the amount given for buildings and maintenance was out of proportion to the small amount raised by private subscriptions. The suggestion was made that the system led to an actual plunder of the public treasury.

State Appropriations to Hospitals: What Other States Are Doing

DR. CHARLES MCINTIRE, Easton, Pa.: This paper was planned to give a comprehensive view of the relation sustained by the various states to hospitals within their borders but not directly under state control. With the exception of Arkansas and Arizona, from which no information was received, for the purpose of this paper, the states of the Union could be tabulated in three divisions: 1. Those which are forbidden by law to make appropriations to institutions not entirely under state control. 2. Those which, while there is no legal prohibition, do not make such appropriations. 3. Those which are making such appropriations. As in the practical outcome there is no difference between the first and the second class these two divisions are included in one list. According to the information furnished, thirty-four states in all make no appropriations. In the remaining list are included those that make appropriations under any conditions whatsoever. As these conditions vary, the acompanying statements are interesting: Of Connecticut the state controller writes: "It has been the practice of this state for many years to appropriate toward the maintenance, and in some instances toward the building, of hospitals under private control in various parts of the state."

Kansas makes appropriations, apparently without conditions.

Louisiana "partially" supports two hospitals; one at New Orleans and one at Shreveport.

Maine makes appropriations. My correspondent writes: "You ask, 'What are the principles governing the appropriations and are there any means of oversight?' The principle in all these things is to get all that is possible by any means, fair or foul. 'Log rolling' is everywhere. The state has control over the two insane hospitals; the other institutions are conducted by boards which are practically self-perpetuating. Some of the organizations which get appropriations are absolutely private affairs."

Of Mississippi, the secretary to the governor writes: "There are three charity hospitals in this state to which appropriations are made by the legislature on condition that a fixed amount of money shall be donated by the county and municipality in which they are located. These institutions were not originally organized by the state, but for years have been receiving state aid to the extent mentioned."

From the attorney general of New Mexico I learn that the territory does not maintain any public hospitals, and has therefore made it a practice in the past few years to make appropriations to the various charitable hospitals in the territory. The legislature, however, is about to strike out all the appropriations to charitable institutions with the exception of two orphan asylums. . . . However, there is no constitutional provision in this territory prohibiting such action.

The Albany Hospital in the state of New York is the only hospital in the state that receives an appropriation directly from the state treasury, and this is to pay for the care of employees of the state who may become injured or sick while on duty at the capitol. The secretary of the State Board of Charities of New York writes that while most of the cities and counties, as provided by the constitution, do pay sums of money to hospitals, it is in the shape of *per capita* for services and not the appropriation of a gross sum.

Rhode Island makes appropriations to various "charities," among which are enumerated some hospitals.

While I have included Vermont among the states making no appropriations, to be literally accurate, I should report that from 1834 until 1888, the only hospital for the insane in the state was one founded by private bequests. This institution, in return for special privileges granted, received small appropriations from time to time, amounting, probably, to about $35,000 in sixty-five years. This money is a lien on the property should it ever cease to be used for an insane hospital.

Advantages of the Pennsylvania System

DR. HORACE G. MCCORMICK, Williamsport: The state is out of debt, she has ample means, the taxes she receives and the money she distributes come from those who are amply able to pay, and what better use, both from the standpoint of humanity and as a financial investment, can she make than is shown by her appropriations to the hospitals of the state? Have any of her appropriations ever been more carefully used, have any shown less graft, have any done more for the relief of the poor and the betterment of humanity than those given to the hospitals of the state? The appropriations made by the legislature each two years, at least to the hospitals outside of the two great cities of this commonwealth, are probably as fairly distributed as could be done by any system that could be devised. The people have put their stamp of approval on the system of the state, giving them all in its power, and it never will be otherwise.

Objections to the Pennsylvania Method

DR. LAWRENCE F. FLICK, Philadelphia: The whole subject of state appropriations to hospitals as practiced in Pennsylvania can be categorically stated as follows:

1. State appropriations to incorporated non-sectarian hospitals are constitutional.
2. The incorporated hospital is the best channel for expending public money for the sick poor.
3. The state hospital was introduced in 1845.
4. A state department of charities for the control of all the charities of the commonwealth was created in 1869.
5. Our constitution and laws contemplated the administration of our charities by incorporated bodies under the supervision of the state board of charities.
6. In the spirit of our laws no appropriations should be made for charitable purposes except upon the recommendation of the state board of charities.
7. Practical politics have militated against the proper application of public charity.
8. Appropriations to hospitals have become a corrupting influence in politics.
9. The state department of health's assumption of hospital and eleemosynary functions was a further inroad of practical politics upon hospital work and is illegal and unconstitutional.
10. The objections to the Pennsylvania *method* of *state* appropriations to hospitals are in the politics which have crept into these appropriations and in the disregard for our constitution and law.
11. The remedy is the exclusion of politics from public charity and the strict enforcement of our laws bearing on it.
12. State appropriations should be made to all hospitals on the basis of private resources and the number of patients treated.

Suggested Improvements

Dr. William L. Estes, Bethlehem: 1. State supported hospitals should carefully guard against imposture and assistance unworthily bestowed, in order to prevent the pauperization of communities. No efficient system has yet been devised to accomplish this end. 2. It is recommended that every person admitted to the hospital shall be charged a fixed definite rate, according to the accommodations selected. Those demanding free treatment, who enter the charity wards, should be charged for treatment, an amount necessary to cover the expense of this treatment. If the person so charged can prove that he is absolutely not able to pay for treatment the state should pay for him. The burden of proof should always be on the patient. 3. Hospitals should use the data in regard to the number of days in the hospital each free patient has spent, and the actual cost, plus a moderate percentage to cover the repairs and maintenance of the buildings, as a basis for soliciting state aid. 4. The state has a right to demand economy and efficiency in the treatment of its wards. The multiplication of hospitals beyond the needs of the communities is to be deplored, because many small hospitals cost much more than a few larger ones to run, and, as a rule, are not as efficiently conducted. 5. All state assisted hospitals ought to be made a part of the educational system of the state. The clinical material of these hospitals ought to be made available for the instruction of the physicians of the community. 6. Some suggestion as to how the cases in hospitals may be used for instructing physicians.

Discussion on State Aid to Hospitals

Dr. Henry W. Cattell, Philadelphia: There is great difficulty in properly discussing the question of state appropriations to hospitals without making the issue a political one. Money appropriated to hospitals under the conditions as they exist in Pennsylvania to-day must *too often* be considered as a direct bribe for political influence. The recipe for getting an appropriation to a hospital in Pennsylvania to-day is somewhat as follows: Devote from 10 to 20 per cent. of appropriation to political purposes and charge it up to local expenses. Have plenty of private rooms and give 50 per cent. of these rooms to the politicians and their friends and permit the other 50 per cent. to be occupied by the pay patients exclusive of the medical and surgical staff of the hospital that receives the appropriation. The time has arrived in the Commonwealth of Pennsylvania to separate distinctly the charitable institution from that managed with an ulterior object in view. It is an absurdity that there are six medical schools in the city of Philadelphia, and one of the solutions in this problem of state appropriations to hospitals lies in reducing at once the number of medical schools in this city from six to three.

Dr. C. E. Thompson, Scranton: It is not the experience in our part of the state that, as claimed by Dr. McCormick, the hospitals receiving state aid are valuable as schools for physicians and nurses. Against his claim that we must have these hospitals supported by the state in order that we should have professional nurses, if he will come to our community I will show him a hundred nurses graduated and now in practice who came from schools that never received any state aid. He speaks of improvements in the non-admission of patients who can afford to pay in our hospitals. There is no improvement in our end of the state. In fact, it is getting worse; and, as to the reduction of graft, I don't think that the state of Pennsylvania has ever taken up the reduction of graft as a specialty. We all know these political evils and we are here to try to correct them, and I should like to make a recommendation that Dr. Estes be instructed to make a draft of his recommendations and bring it before our house of delegates. (The motion was carried.)

(To be continued)

AMERICAN ROENTGEN RAY SOCIETY

Tenth Annual Meeting, held at Atlantic City, September 23-25

(Concluded from page 1321)

Roentgen Diagnosis of Pulmonary Lesions

Dr. Charles Lester Leonard, Philadelphia: The Roentgen method of examination of the chest is of great value as an adjunct to physical diagnosis, particularly in early deep-seated lesions, peribronchial infiltrations and bronchial adenitis. In the advanced cases it adds an element of greater accuracy and detail in localizing the affected area; it corroborates the physical signs and is at all times a mechanical method of registering observations which can be compared with others later. Not infrequently, deeply situated areas of consolidation and cavities are seen in the skiagraph that have escaped other methods of examination. Besides the alterations in the lungs and pleura produced by tuberculosis, the Roentgen ray discloses pericardial effusions and thickenings of all kinds. Other features seen are the relative height of the diaphragm on both sides, the relations of the heart and larger blood-vessels, and calcification of the costosternal cartilages.

DISCUSSION

Dr. P. M. Hickey, Detroit: I wish to sound a note of warning with reference to interpreting shadows around the root of the lung as being due to enlarged glands when in reality they are the result of a chronic inflammation around the bronchi. In two cases I made the diagnosis of tuberculosis, but the tuberculin test failed to confirm the diagnosis.

Dr. L. G. Cole, New York: I agree with Dr. Hickey, but nevertheless I am convinced of the superiority of the Roentgen ray in diagnosing early incipient cases of tuberculosis. The radiogram registers pathologic changes long before they can be detected by physical examination. The mottled appearance of the lungs is absolutely characteristic of tuberculosis, no matter where it is found.

Dr. K. Dunham, Cincinnati: We must not lose sight of the fact that the tuberculin test is the most valuable means of diagnosis in tuberculosis and that the Roentgen ray is next.

Dr. Arthur Holding, Albany: The important feature of roentgenography of the chest is not the making of the diagnosis, but the determination of the pathologic condition present. A skiagraph should be made of both sides of the chest for purposes of comparison.

Dr. George C. Johnston, Pittsburg: Not infrequently a few small doses of potassium iodid, about three grains three times a day, produce sufficient local congestion to facilitate materially the diagnosis of tuberculosis. Care must also be taken not to mistake syphilis of the lung for tuberculosis.

Dr. K. Dunham: Tuberculin has the *same effect* in these cases as has potassium iodid.

Roentgen-Ray Diagnosis of Diseases of Bone

Dr. W. H. Dieffenbach, New York: I have made a special study of bone lesions caused by gonorrhea, and have found certain lesions which I believe are characteristic of the condition. These are (1) deformity and enlargement of joints; (2) diminution of shadow involving the peripheral portion of all bones of the affected joints (3) small sclerosed intraosseous areas in the shaft or epiphysis, the so-called Carleton's spots.

DISCUSSION

Dr. Percy Brown, Boston: I believe Dr. Dieffenbach is in error in this matter, because the changes in bone enumerated by him as being characteristic of gonorrhea are found in nearly every case of infectious disease.

Dr. F. H. Baetjer, Baltimore: I have found that in gonorrhea the bone is never attacked until after the cartilage has been eroded. The disease never attacks the diaphysis.

Technic in Calculus Diagnosis

Dr. A. L. Gray, Richmond, Va.: In this work I prefer to use a cone or cylinder because it obviates a source of error that may present itself in foci of calcification in the lower costal cartilages and it is an easy method of directing the rays through the kidneys to the plate. By forcing the back into close contact with the plate, the sharpness of the calculus shadow is increased. I always make four plates, one of each kidney, one embracing the ureters well into the true pelvis, and the fourth of the true pelvis, including the entire surface of the symphysis pubis. The kidney and ureter plates are made with the patient in the dorsal position, the head low and the thighs well-flexed on the pelvis; the semi-sitting posture is the best for making a plate of the pelvis. I wish to call attention to soiling the plate by sweat, because a sweat stain cannot be differentiated from a calculus shadow. I protect my plates with rubber dam or thin celluloid.

Speed Mania in Radiography

Dr. L. G. Cole, New York: The disadvantage of making extremely rapid exposures is that it spoils many good tubes; however, absence of motion is essential to good detail. In chest and abdominal work the exposure should not exceed the time the patient can hold the breath. Detail and not speed is the object to be sought after in radiography.

DISCUSSION

Dr. P. M. Hickey, Detroit: Speed is not always necessary, but no hard and fast rule can be laid down except that as much speed should be used as is needed to get detail. The smashing of tubes is a minor consideration, and it is up to the manufacturers to overcome this by making better tubes. The tubes in use to-day are far better than those employed five years ago.

Dr. George E. Pfahler, Philadelphia: In order to secure a skiagraph of a moving part of the body, it must be made in a period of time that is too short for that part to move in. If detail is not essential there is no necessity for speed, but unfortunately detail is the one thing needed in radiography.

Dr. E. W. Caldwell, New York: When a satisfactory appliance to produce a satisfactory current for the proper excitation of tubes is devised, the speed problem will to a large extent disappear, and with it many of the difficulties of the tube manufacturer. An apparatus which will supply a tube with one hundred milliamperes will do away with the necessity for high speed.

X-Ray Work in Hospitals

Dr. Rollin H. Stevens, Detroit: A large number of hospitals are equipped with suitable radiographic apparatus, owned either by the hospital, the staff, or the radiographer, usually the former. Some of the hospitals pay the radiographer a salary, others a percentage; and still others divide the fees. Inquiry has convinced me that every modern hospital is alive to the advantages of a Roentgen-ray equipment, not only for diagnosis but for treatment. I find that many hospitals keep careful records and some employ a staff of assistants to do this work. No hospital aiming to do scientific work can afford to be without such an equipment.

Use of Roentgen Ray in Goiter

Dr. Carl Beck, New York: I have employed the Roentgen ray in treatment of all forms of goiter, with varying success. In exophthalmic goiter I favor the combination method, that is, removal of a portion of the gland followed by Roentgen irradiation. In advanced cases in which immediate operation is contraindicated the ray should be employed until the condition of the patient has been improved sufficiently to permit of operation. I have employed the combination treatment in fourteen cases, a cure resulting in thirteen.

Tuberculous Cervical Glands

Dr. K. Dunham, Cincinnati: In thirteen cases which I have studied I found an enlargement of the mediastinal glands, which I believe proves conclusively the fallacy of attempting a radical removal of the cervical glands in the hope of eradicating the disease. I find that the combined use of mercurial injections and Roentgen irradiation of the affected glands is the best treatment. Surgery should be reserved for those cases in which the glands are broken down and sinuses are present.

DISCUSSION

Dr. Arthur Holding, Albany: I am convinced that the Roentgen ray is possessed of curative powers, almost specific in character, in tuberculous adenitis. When the lesions are small I use the high-frequency vacuum electrode first; in the more advanced cases I use the ray at once. When the glands break down they should be opened and then rayed.

Roentgen Ray Dermatitis

Dr. M. K. Kassabian, Philadelphia: This dermatitis may be either acute or accidental, the dermatitis of the patient, or chronic, the dermatitis of the operator. Both now occur rarely, owing to improved apparatus and greater care in its use. Only the most thorough protection against exposure to the ray gives the operator any degree of safety. I never use a fluoroscope and I am never exposed to the ray to the slightest degree. The operator's dermatitis usually comes on slowly and passes through stages of redness, dryness, itching, ulceration and pain. The most effective treatment in the acute cases is hot normal salt solution. In the chronic cases, exposure to the ray and trauma of any kind should be avoided, the affected parts should be anointed with lanolin, the hands kept warm, gloves worn, no soap used, the hands immersed frequently in hot water, fissures touched with a 5 per cent. argyrol solution. A posterior digital splint will hasten the healing of a fissure, but rest, absolute rest, is the most essential factor in the treatment. Warty growths must be excised and the defect covered with a skin graft.

Roentgen Ray in Carcinoma of the Uterus

Mr. H. W. Dachtler, Toledo, Ohio: I have had good results from the use of the Roentgen ray following operation for carcinoma of the uterus, but sufficient time has not yet elapsed to permit of drawing conclusions as to the effectiveness of the treatment. I employ a short, wide tubular speculum, and a tube of small diameter, so that the rays are brought as near the seat of trouble as possible. The treatment is begun the second day after operation, and is continued daily during the patient's stay in the hospital.

Measurement of the Roentgen Ray

Dr. C. M. Peabody, South Orange, N. J.: The fundamental principles involved in my method of measurement are based on known physical laws, and the method is easily applicable by any one under any circumstances. By making a series of exposures so as to obtain plates of graduated density, various units of work are obtained, and by bearing in mind that "the work done by any force varies with the time through which it acts," and "that the work done by a given light varies inversely as the square of the distance from the source of light," and "that the work done by any *x*-light varies with the quantity of current passing in the tube, other conditions remaining constant," a working formula may be evolved.

Book Notices

CONSTIPATION AND INTESTINAL OBSTRUCTION. By Samuel Goodwin Gant, M.D., LL.D., Professor of Diseases of the Rectum and Anus in the New York Post-Graduate Medical School and Hospital. Cloth. Pp. 559, with illustrations. Price, $6. Philadelphia: W. B. Saunders, Co., 1909.

This work begins with a preliminary section on anatomy and physiology, after which etiology is extensively discussed to the amount of 70 pages, the greater part of which is taken up by mechanical (obstructive or surgical) causes. Symptoms, consequences and diagnosis are next considered to the extent of 77 pages. The remainder of the volume, over 300 pages, is taken up with treatment. The exciting causes given have been pointed out many times—neglect of parental supervision, false modesty, abuse of purgative drugs, etc. Visceral ptosis is probably given too prominent a place in the etiology, and some aspects of the former seem entirely outside the scope of the work.

Coming now to the treatment, while the routine use of drugs is not advised, yet, for those who prefer their use, an account of the various agents is followed by a rather lengthy selection of formulas. The non-medicinal treatment is considered at great length—massage, vibration, psychotherapy, diet, etc. Included in the surgical treatment are descriptions of various stock operations, enterectomy, end-to-end anastomosis, and so on, which might very well have been omitted, with references to any modern operative surgery for details of the technic. This, of course, does not apply to Dr. Gant's personal technic and modifications. Again, more than one of the illustrations—for example, that of a nurse wringing out fomentations, and pictures of Davidson's syringe and similar devices—add nothing to the text. Moreover, a great deal of the apparatus alluded to will scarcely be found save in the armamentarium of the specialist.

The work as a whole, however, impresses us rather favorably and a perusal of it will result in the acquisition of much interesting information concerning this wide-spread ailment.

DIET IN HEALTH AND DISEASE. By Julius Friedenwald, M.D., Professor of Gastro-Enterology in the College of Physicians and Surgeons, Baltimore, and John Ruhräh, M.D., Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Cloth. Pp. 765. Edition 3. Price, $4 net. Philadelphia: W. B. Saunders Co., 1909.

The revisions and additions to be found in the third edition of this work have increased its value and broadened its scope. A number of useful tables have been added, one of the most notable being Winton's list, giving the composition of diabetic foods, in which many of the so-called diabetic flours on the market are shown to be dangerously rich in carbohydrates. The chapters dealing with alcohol and milk have been practically rewritten and a brief description of the less complicated methods of detecting preservatives and adulterations in food has been added. In dealing with a subject that, at present, is receiving more than usual attention, viz., the use of chemical preservatives in foods, other than the commoner ones of sugar, salt, vinegar and wood-smoke, the authors take a conservative stand. Admitting that the question of the actual effect of various preservatives on the human body is still an unsettled one they assert: "It may safely be stated that the addition of any chemical preservative to food is undesirable." In fact, the general tone of the book is one of conservatism; the authors ride no dietetic hobbies and the result is a work that is eminently practical in scope whether it be used by the practitioner or the medical student.

REPORT OF THE BOARD OF TRUSTEES "COMMISSIONERS OF WATER-WORKS" OF CINCINNATI, OHIO. By Geo. H. Benzenberg, Chief Engineer. 1909. Cloth. Pp. 267, with illustrations.

The city of Cincinnati was one of the first of the large cities in this country to install complete water-purification works. Lime and sulphate of iron are used as coagulants. The construction of the plant was undertaken only after careful investigation into the local conditions, and the work throughout has been supervised by some of the leading American sanitary experts. The present report gives an admirable history of the enterprise, including a summary of the experiments on filtration which were discussed in full in a previous publication. A section on the operation of the plant for the year 1908 is given, in which we learn that over 50 per cent. of tests made with 100 c.c. of filtered water were negative for *Bacillus coli*. The cost of filtration is stated at $4.40 per million gallons. The report is beautifully illustrated with photographs and line drawings.

INBORN ERRORS OF METABOLISM: The Croonian Lectures Delivered Before the Royal College of Physicians of London, in June, 1908. By Archibald E. Garrod, D.M., M.A., Fellow of the Royal College of Physicians. Cloth. Pp. 168. Price, $1.35. New York: Oxford University Press, 1909.

A year ago Garrod delivered a series of lectures before the Royal College of Physicians of London on the above topic, which were shortly afterward published in the *Lancet*. They have now been somewhat amplified, brought up to date, and published in the form of a small book, which makes them much more accessible and useful to many readers. The known conditions which correspond to the title are albinism, alkaptonuria, cystinuria and pentosuria, and after an introductory chapter on the general relations of heredity to metabolic variations, these four subjects are considered at length. In all respects the discussions are interesting, authentic and readable. They bring the knowledge of the subject well up to date, and the chapters on alkaptonuria and cystinuria probably represent the best summary of these subjects to be found anywhere. Albinism is not discussed to as great length as it might be, and it would seem that retinitis pigmentosa, with its striking relation to parental consanguinity, should have been considered. Any physician who wishes a pleasant bit of reading which will give him an insight into the way chemical methods are making progress in medical problems, will find much to interest and please him in this little book, while every progressive physician will value it for its thorough consideration of four obscure metabolic abnormalities.

A TEXT-BOOK OF THE DISEASES OF THE EAR. By Prof. Dr. Adam Politzer, [illegible] sor of Aural Therapeutics in University of [illegible] at the Personal Request of the Author, a [illegible] J. Ballin, Ph.B., M.D., Assistant Surgeon, [illegible] and Aural Institute, and Clarence L. Heller, [illegible] Cloth. Pp. 892, with 337 original illustrations. Price, $8.00. Philadelphia: Lea & Febiger, 1909.

Since the appearance of the last edition of Professor Politzer's "Diseases of the Ear" six years ago, most marked advancement in otology has been made in the physiology and pathology of the internal ear. As a result, new operative procedures have been pointed out and made possible in that region. During the same period intracranial lesions of aural origin have been rendered more accessible by improved operative methods. The new edition of this standard work gives the results of the investigations of Politzer and his followers in these new fields, as well as a revision of those subjects made necessary by the recent advancement in the pathology and therapeutics of aural affections in general. The addition of this new material again places a work of inestimable value in the hands of students of otology.

GENETIC PSYCHOLOGY: An [illegible] bjective and Genetic View of Intelligence. By [illegible] B.S. M.Ph., Author of "Fundamentals of [illegible] Pp. 373. Price $1.25. New York: Macmillan Company, 1909.

As an invitation—Mr. Kirkpatrick calls it an "introduction"—to the further and deeper study of modern psychology, this little book is deserving of commendation. Beyond all doubt it is true that "the theory of evolution has completely revolutionized the biologic sciences and is now making similar changes in psychology, the science dealing with the highest form of life, that of consciousness;" but none the less true is it that we are yet very far from being able to apply all the observations recorded in the biologic sciences as explanations of all the phenomena noted in the mental sciences. It is on this point that nearly all of the books of this class become unreliable. Not being large enough to present all sides of the questions at issue, including the data both for and against the theories of mind, they become too dogmatic in assertion, make assumptions not fully warranted by the facts in hand, and lead the careless and little-read student to accept as the final word of science what is merely the one-sided view of an over-enthusiastic writer.

The earlier chapters of the book, devoted to a discussion of behavior and its structural basis, to types of animal behavior, to complex behavior characteristic of species, to behavior of individuals, and to the structures concerned in complex behavior and in ideation, though brief and compressed, are admirable, so far as they go, in summarizing in general the observations made in the experimental laboratory.

The chapters in which there is a consideration of consciousness, of specific conscious states, and of types of adaptive activity or intelligence are far less satisfactory. Here too often Mr. Kirkpatrick plays on words or assumes that the mere description, in scientific jargon, of commonly observed phenomena is equivalent to explanation. Occasionally he contradicts himself. These faults, however, are not at all uncommon among compilers of psychologic handbooks, who are unduly impressed with the inductive methods of the laboratory. Space does not permit of more than one illustration. By attaching a novel meaning to the word "intelligence," so as to have it synonymous with "the adaptation of means to ends," and thereby conferring on it a breadth to include unconscious as well as conscious processes, chemical, physiologic and physical, Mr. Kirkpatrick concludes that man posseses four kinds of "intelligence," physiologic, sensory-motor, representative and conceptual, all of which differ from one another in degree more than in kind, all being dependent on like neural elements and processes. Both the liver and the brain functionate, of course, in the line of adapting means to an end; but to call the force behind these functions "intelligence" it thereby assumes that the functions are essentially the same, is pushing the logic of analogy rather far. A mere play on the word intelligence is made to take the place of scientific proof. The use of the term "growth" in connection with the processes of crystallization and of protoplasmic development does not establish the similarity of the processes.

The best chapter in the book is that entitled "Types of Learning Activity: Nature of Learning." It is full of valuable suggestions, showing Mr. Kirkpatrick's familiarity with the science of practical pedagogics.

The final chapter is a summary of Mr. Kirkpatrick's own particular psycho-physiologic theories and their use in accounting for man's autogenetic and phylogenetic progress.

A Treatise on the Principles and Practice of Medicine. By Arthur R. Edwards, A.M., M.D., Professor of the Principles and Practice of Medicine and of Clinical Medicine and Dean of the Faculty in the Northwestern University Medical School, Chicago. Second Edition. Cloth. Pp. 1212, with 100 engravings and 21 plates. Price, $5.50. New York and Philadelphia: Lea & Febiger, 1909.

A new edition of a book frequently means simply a new impression with no alterations whatever. With the work before us, however, it is different. We quote from the preface: "Particular attention has been given to therapeutic details in accordance with the recent awakening of the profession to the importance of logical treatment; numerous new preparations and modified names and dosages, particularly for children, are explicitly specified. There are practically new chapters on the arrhythmias and other cardiac neuroses, tropical splenomegaly and various other tropical affections. Due consideration has been given to the meningitis serum of Flexner and Jobling, Strong's work on amebic dysentery, blood cultures in typhoid and other bacteriemias, the "carriers of infection," the recent epidemics of meningitis and poliomyelitis, the accumulating evidence in favor of the spirochete as the cause of syphilis, and the recent status of tuberculin in its therapeutic application and in its various diagnostic uses, as the ocular-reaction and von Pirquet's test.

Thus there has been no labor spared on the part of the author, or expense on the part of the publishers to improve the book in every particular, and especially to bring it thoroughly up to date. The fact that a new edition has been demanded within two years after its initial issue does not always mean that the book is a success, but this is undoubtedly the case in this instance. Edwards' "Practice" has deservedly taken its place as one of the standard text-books on practice, and it will continue to hold this place if future editions are as honestly and conscientiously revised as this one has been.

It is to be regretted that there is no analytical table of contents in the front of the book. The index is an elaborate and satisfactory one, but an analytical summary in such a work as this is of as much importance as the index.

Clinical Diagnosis and Treatment of Disorders of the Bladder, with Technique of Cystoscopy. By Follen Cabot, M.D., Professor of Genito-Urinary Diseases, Post-Graduate Medical School, New York. Cloth. Pp. 224, with illustrations. Price, $2.00. New York: E. B. Treat & Co., 1909.

The clinical diagnosis of disorders of the urinary bladder, with especial reference to the use of the cystoscope, the technic of cystoscopy, and the treatment of disorders of the bladder are the chief subjects of Dr. Cabot's little book. It takes up systematically case records; management of the patient; anatomy of the genitourinary tract; urinalysis (a short chapter); a description of the methods of examining the bladder and the segregation of the urine; the technic of and indications and contraindications for cystoscopy; the causes, diagnosis and treatment of cystitis, and the diagnosis and treatment of senile prostatic hypertrophy. The book does not attempt to cover the entire subject, but is in a great measure a record of personal experience, set forth clearly and plainly, by a man who is evidently a practical teacher.

Diseases of the Pharynx and Larynx. By Dr. E. J. Moure, Surgeon in Charge of the Nose, Ear and Throat Department of the Faculty of Medicine, Bordeaux. Translated and Adapted by J. Malcolm Farquharson, M.B., F.R.C.P., Lecturer on Diseases of the Nose, Ear and Throat in the School of Medicine of the Royal College, Edinburgh. Cloth. Pp. 403, with illustrations. Price, $4. New York: Rebman Co., 1909.

The experience and knowledge of the distinguished author of this work have eminently fitted him to write a treatise on the diseases of the pharynx and larynx; he has condensed a surprising amount of information into a comparatively small volume. The profuse illustrations, both colored and in black and white, are all good and many of them admirable; they are most instructive because of their exactness.

The book would have gained in power to instruct had there been less attempt at brevity in its writing, for the description often suffers in clearness on account of the effort to employ a laconic style. Logical and connected, yet concise, expression implies a rare command of language; and this may exist in the original French version of this book, but is certainly not a quality of the translation. Some passages are so confused as to be quite unintelligible. A representative example is the following, referring to laryngeal paralysis of central origin: "Along with Lannois, the author admits that vocal disturbances are most frequent in labio-glosso-laryngeal paralysis. Charcot has described a defect of adduction of the cords which explained their aphony. Laryngoscopic examination alone determines the nature of the lesion, which produces vocal disturbances. Here it is a comparatively trivial symptom, but otherwise in the case where the two vocal cords are fixed in the mesial line, direct examination permits of therapeutic deductions being drawn." This disconnected and incoherent passage is so meaningless that it could hardly instruct the general practitioner, for whom the book is supposed to be designed. Even one familiar with the nervous affections of the larynx cannot understand what is meant.

A similar paragraph, referring to the vagospinal paralysis, reads: "On laryngoscopic investigation the vocal cord appears as in recurrent lesions. However, the pneumogastric being a mixed nerve, its compression determines immobilization of the two cords almost in the middle line, the one being paralyzed and the other in reflex contraction." This passage is also quite confused, and a condition is merely alluded to which requires a logical explanation for the student's sake. By "recurrent lesions" in this paragraph the translator, of course, means lesions of the recurrent laryngeal nerve. In ordinary English the expression "recurrent lesions," however, would imply returning lesions, and the expression would be so understood by readers not familiar with the subject. In other parts of the book paralysis of the recurrent laryngeal nerve is spoken of as "recurrent paralysis"—an equally misleading use of the word "recurrent."

Those especially versed in laryngology and the diseases of the pharynx can grasp the author's meaning in the many confused passages of the translation; but the work cannot be recommended as an introductory text-book. It is to be regretted that the translation of this book, which shows in part the excellence the whole might possess, should have such serious defects.

Medicolegal

Courts Cognizant of Accuracy of X-Ray Photographs—Damages for Injuries

The Court of Civil Appeals of Texas says that in Houston & Texas Central Railroad Co. vs. Shapard (118 S. W. R. 596), a personal injury case, objection was made to the admission in evidence of photographs of the bones of the plaintiff's injured leg taken with an *x*-ray instrument, the burden of the objection seeming to be that, without cutting away the intervening flesh, skin, etc., it was impossible to tell whether the pictures correctly represented the condition of the injured bones. But the court holds that there was no error in admitting the photographs in evidence, in connection with the testimony of a physician as to the character and use of the *x*-ray instrument and the manner in which the photographs were taken, it being shown that the instrument used was a correct one of the kind and had been frequently used by the witness. It would be strange, the court, says, if in the trial of cases in the courts use could not be made of facts elicited by means of a process the usefulness and absolute accuracy of which has been so completely demonstrated as have been photographic views of the bones of a living body by means of the *x*-ray. When properly taken, as these views were shown to have been, it is a matter of such common knowledge that they accurately represent what they purport to show that even courts may take cognizance of the fact.

The plaintiff was a railway fireman, 27 years of age, when injured. The evidence showed that both bones of the leg were broken between the knee and the ankle, that one of the bones had never properly united; and that in consequence the foot was turned in, interfering with his walking. While in the hospital, about a dozen small pieces of the bone of the leg were taken out. Also, according to his testimony, flames from burning oil reached him at the time of the accident and set his clothing on fire, and his legs, feet and some parts of his body were severely burned. He endured very great physical suffering for several months, from the burns and from the wounds on his broken leg, which required some time to heal. The jury allowed him $25,000 damages, but the court thinks $17,500 sufficient.

No Extra Compensation for Disinfecting

The Supreme Court of Michigan says that the case of Tabor vs. Board of Supervisors of Berrien County (120 N. W. R. 588) was based on a city health officer's claim for disinfecting and fumigating houses in which were or had been contagious and dangerous communicable diseases, smallpox, typhoid fever, scarlet fever, consumption, diphtheria, measles and pneumonia. The board of supervisors refused to allow the claim. It contended that the services rendered were the ordinary services required of a health officer by Section 4460 of the Compiled Laws of Michigan, which were compensated by the salary which it was conceded was provided for the claimant. The Supreme Court thinks that the board's position was well taken. Section 4460 is Section 1 of Act No. 137 of the Public Acts of Michigan of 1883, entitled "An act to specify certain duties of health officers and provide for compensation therefor, in townships, cities and villages where the health officer is not otherwise instructed by the local board of health." Section 4460 specifies the duties to be performed. The same section makes it the duty of the health officer "to disinfect rooms, clothing and premises and all articles likely to be infected before allowing their use by persons other than those in isolation." Section 4462—Section 3 of the act—provides that: "In the fulfillment of the requirements of this act, the health officer, unless other provision shall have been made in accordance with law, shall be entitled to receive from the township, city or village of which he is health officer, compensation at the rate of not less than two dollars per day," etc. It was the plainly expressed object of the statute to specify the health officer's duties and to provide the compensation for the specified duties. The service performed by the claimant was in discharge of a clearly specified duty, and the compensation therefor was provided for in Section 4462, or the provision for a salary "made in accordance with law."

Illegal Physical Examination of Defendant in Rape Case

The Supreme Court of Missouri, Division No. 2, says, in the rape case of State vs. Newcomb (119 S. W. R. 405), where there was evidence that the prosecuting witness had been found afflicted with gonorrhea, that the defendant, while in custody and charged with the crime of rape, and when without counsel, was ordered by the justice of the peace, at the demand of the prosecuting attorney, to submit to a physical examination of his privates by a physician. He was taken into a room of the courthouse, and in the presence of the sheriff was examined by a physician, both of whom testified as to the result of that examination, and as to what they saw during that examination and what they said to him. It was insisted that this was flagrant error and was a conspicuous violation of the constitutional right of the defendant to be exempt from testifying against himself. Some effort was made to show, on the other hand, that the defendant voluntarily consented to this violation of his person, but the court thinks that it was apparent that he simply submitted because he thought he was compelled to do so. When it is considered that he was at the time in custody for this very crime; that the prosecuting attorney demanded an order from the justice for this examination; that the sheriff took the defendant into a private room for the purpose of the examination—it is not strange that the latter thought he was compelled to submit. It is idle to talk of his having consented to this violation of his person. As the court reads the record, he had no option in the matter. The salutary provision of the statute would seem to have been overlooked. The court thinks that all of this testimony of the physician and the sheriff as to this examination should have been excluded. This testimony was incompetent and inadmissible and violative of the defendant's constitutional right not to be compelled to testify against himself. Furthermore, the court holds that, without regard to the legality of the examination, there can be no doubt but that it was error to permit the physician to detail to the jury what he said to the defendant during said examination.

Libel in Unauthorized Testimonial—Representing Physician as Advertising

The Supreme Court of the United States says, in reversing a judgment directing a verdict for the defendant in the libel case of Peck vs. Chicago Tribune Co. (29 S. C. R. 554), that the libel alleged was found in an advertisement printed in the defendant's newspaper, which read: "Nurse and Patients Praise Duffy's. Mrs. A. Schuman, One of Chicago's Most Capable and Experienced Nurses, Pays an Eloquent Tribute to the Great Invigorating, Life-Giving, and Curative Properties of Duffy's Pure Malt Whisky." Then followed a portrait of the plaintiff, with the words, "Mrs. A. Schuman," under it. Then in quotation marks, "After years of constant use of your Pure Malt Whisky, both by myself and as given to patients in my capacity as nurse, I have no hesitation in recommending it as the very best tonic and stimulant for all local and run-down conditions," etc., with the words, Mrs. A. Schuman, and an address at the end, conveying the notion of a signature, or at least that the words were hers. The plaintiff declared that she was not Mrs. Schuman, was not a nurse, and was a total abstainer from all liquors.

The court considers that the plaintiff had a case which it was her right to prove and have go to the jury. It was pointed out that there was no general consensus of opinion that to drink whisky is wrong, or that to be a nurse is discreditable. It might have been added that very possibly giving a certificate and the use of one's portrait in aid of an advertisement would be regarded with irony, or a stronger feeling, only by a few. But it appears to the court that such inquiries were beside the point. If the advertisement obviously would hurt the plaintiff in the estimation of an important and respectable part of the community, liability was not a question of a majority vote. There was some suggestion, to, that the defendant published the portrait by mistake, and without knowledge that it was the plaintiff's portrait, or was not what it purported to be. But that fact, if it was one, was no excuse. If the publication was libelous, the defendant took the risk.

Obviously an unprivileged falsehood need not entail universal hatred to constitute a cause of action. No falsehood is thought about or even known by all the world. No conduct is hated by all. That it will be known by a large number, and will lead an appreciable fraction of that number to regard the plaintiff with contempt, is enough to do the latter practical harm. Thus, if a physician were represented as advertising, the fact that it would affect his standing with others of his profession might make the representation actionable, although advertising is not reputed dishonest, and even seems to be regarded by many with pride. See Martin vs. The Picayune (Martin vs. Nicholson Pub. Co.), 115, La. 979.

Fees Allowed Family Physician

The Appellate Term of the Supreme Court of New York says that the plaintiff in the case of Haas vs. Read (117 N. Y. S. 106) sued to recover $300 for services as a physician rendered between October, 1907, and January, 1908. He resided next door to the defendant, whose wife and child he concededly attended until dismissed by the calling in of another physician. He sent in his bill for $300. The defendant retained it. Three months thereafter, the plaintiff insisting on its payment, the defendant refused on the ground that it was exorbitant.

On the trial the plaintiff testified to 57 visits, of the value of $5 each. The defendant conceded 42 visits, denied any others, and claimed the value of those made to be $2 or $3 each. He placed in evidence a bill rendered to him by the plaintiff for one visit, made in April, 1907, in attendance on Mrs. Read, for which he charged and was paid $4. The defendant's proofs as to the number of visits lacked probative force, while the plaintiff's was corroborated by written memoranda made at the time of each visit. The plaintiff called a specialist in children's diseases, with whom he consulted twice while attending the defendant's child, to prove the value of the plaintiff's services at $5 per visit; but the exceptions to that testimony were well taken, and it must therefore be disregarded. The defendant offered no evidence of other physicians as to said value, so that the plaintiff's testimony on that subject stood practically unchallenged. It may be assumed from the record that the plaintiff's attendance was as a family physician, not as a specialist in children's diseases. It would seem that by his previous charge of $4 he had established with the defendant his fee per visit.

The trial court found that 57 visits were made, at $5 each, and gave judgment for $285. This should be reduced to $228 ($4 a visit).

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

October 9

1 An Appreciation of Evolution and Darwinism. W. B. Konkle, Montoursville, Pa.
2 The Important Pathogenic Protozoa Found in Man. W. M. Kerr, Newport, R. I.
3 *A Danger-Free Method of Using Freshly Prepared Virus (*Virus Fixé*) from the Brain of a Hydrophobic Rabbit. F. Proescher, Pittsburg.
4 Isolated Fracture of the Transverse Process of a Lumbar Vertebra. S. Lange, Cincinnati.
5 Tracheobronchoscopy and Its Merits in Foreign Body in the Bronchus. B. A. Thomas, Philadelphia.
6 Orthodontia as Related to Medicine. S. M. Weeks, Philadelphia.
7 *Practical Test for I[illegible] Acid) in Urine. F. C. Askenstedt, [illegible]
8 Mental Hygiene. C. [illegible]

3. **Untreated Rabietic Virus.**—The practical value of using fresh *virus fixe* for the treatment depends on a single factor, and that is, that the *virus fixe* used must be absolutely atoxic and avirulent for the human being. In the last two years 40 patients have been treated under Proescher's direction. Some of these patients were bitten by dogs actually proved mad; others by dogs which were only suspected to be afflicted with rabies. No patients have died from hydrophobia and none showed any evidence of intoxication due to *virus fixe*. The first 10 patients were given two injections daily for ten days; 11, one injection daily for ten days, and the last 19 were given daily injections for six days. It is no longer necessary to dry the spinal cord, and at the same time the more virulent brain tissue can be used, thus eliminating the tedious and difficult dissection of the spinal cord. The using of fresh *virus fixe* is very advantageous to both physician and patient as it offers greater security than the old Pasteur method due to the giving of fresh *virus fixe* on the first day, thus losing no time in the immunization with avirulent *virus fixe*, which all authorities agree does not give any protection, but affords time for possible development of rabies. By the method described in this paper, the immunization time is said to be shortened two-thirds, and both trouble and expense are saved.

7. **Test for Indican.**—Askenstedt has evolved from the Obermeyer test a modification which, he says, though still possessing certain imperfections, yet combines the advantages of the ordinary quantitative tests for indican with a greatly simplified technic, rendering it the one best adapted to the requirements and limitations of the medical practitioner. The test is carried out as follows: To 10 c.c. of urine in a test tube add 10 c.c. of the ferric chlorid solution and mix by inverting the tube once; then add quickly 8 c.c. of chloroform, and extract the indigo in formation by shaking the tube 400 times, holding it in a horizontal position. After this let the chloroform fall to the bottom of the tube, then pour off most of the supernatant fluid, fill the tube nearly full with water, invert it a few times to wash the chloroform, and let this again precipitate in the tube, and pour off most of the water. Repeat twice this process of washing, taking care that no chloroform escapes with the wash water, and allowing not more than 2 or 3 c.c. of the last wash water to remain over the chloroform. Now add from 13 to 15 c.c. of alcohol and mix by shaking. A clear blue fluid should result. If hazy, add one or two c.c. more of alcohol until the fluid clears up. Compare the color of this fluid with an equal quantity of a standard solution of indigo blue in the second test tube by holding the two test tubes in front of a white surface. This standard solution is made by pouring into the empty second tube a quantity of water equal to the amount of the fluid in the first tube, and then dropping the stock solution of indigo blue into the water, inverting the tube after each drop, until both solutions have the same amount of blue color. If this requires four drops of the stock solution the percentage is 0.0004; if five drops, 0.0005; if six drops, 0.0006, etc.

The indican extract will often prove slightly greenish. By adding one or more drops of the picric acid solution to the standard solution in the test tube, this can be made to conform to the color of the extract. Albumin or bile in the urine will not interfere with the estimation; sugar reduces it. To compensate for indican not collected by the chloroform and the small amount lost in the washings, add 20 per cent. to the final result. Urine containing 0.002 per cent. or more of indican, or giving a blackish extract, should be diluted with equal quantity of water and retested.

Medical Record, New York

October 9

9 The Development of Gastroenterology in America. J. Friedenwald, Baltimore.
10 *New Method of Catheterizing the Pylorus and Duodenum. M. Einhorn, New York.
11 Clinical Results of Gastroenterostomy. H. W. Bettmann and F. W. White, Boston.
12 Gastric Symptoms and Gall-Bladder Disease. H. Adler, Baltimore.
13 *Cesarean Section in Placenta Prævia. V. E. Marshall, Appleton, Wis.
14 Chronic Varicose Ulcers of the Leg. A. J. Buka, Pittsburg.
15 Trichinosis. L. Dobson, Ashland, Maine.
16 Permanent Blood-Pressure Records. B. W. Fontaine, Memphis, Tenn.

10. **Catheterizing the Pylorus and Duodenum.**—Einhorn again describes the use of his duodenal bucket.

13. **Cesarean Section in Placenta Prævia.**—In Marshall's case there was a central implantation of the placenta in a woman with moderately contracted pelvis, who had had two difficult deliveries of stillborn children, and in whom the Cesarean section was performed in the third pregnancy, in which central placenta prævia existed. The patient was sterilized by tying the tubes. The operation resulted in recovery for the mother and the delivery of a healthy child.

Boston Medical and Surgical Journal

October 7

17 *Study of the Reticulated Red Blood Corpuscles by Vital Staining Methods; Its Relation to Polychromatophilia and Stippling. J. B. Hawes, Boston.
18 The Post-Mortem Diagnosis, Prevalence and Prevention of Rabies. L. Frothingham, Boston.
19 Human Rabies. C. F. Withington, Boston.
20 Varicose Veins of the Leg. H. M. Chase, Boston.
21 *Arteriovenous Anastomosis for Senile Gangrene. J. C. Hubbard, Boston.

17. **Reticulated Red Blood Corpuscle.**—Hawes believes that the condition known as stippling of the red cells and that known as polychromatophilia are probably but different forms of the same process. Reticulated red cells, *"les hematics granuleuses,"* of Chauffard and Feissinger, as shown by simple vital stains, either in temporary or permanent specimens correspond to the stippled or polychromatic cell as seen in the fixed preparation, and are due to the same causes. Owing to the greater delicacy of the vital staining method, the reticulated forms will always be found in considerably greater percentages than stippled or polychromatophilic cells. All these phenomena Hawes regards as evidences of cell regeneration and indications of the activity of the blood-forming organs. Reticulated forms occur in normal blood in slightly less than 1 per cent.; in certain pathologic conditions they may be present up to 22 per cent., or even up to 65 per cent.

21. **Arteriovenous Anastomosis for Senile Gangrene.**—In Hubbard's case the circulation in the foot was sufficiently improved by the operation so that the color of the area, originally purple, changed and became almost normal in appearance, with the exception of the toes. Edema of the leg, which was slight at first, became excessive. It made the leg seem stiff and full to the patient. Coincident with the appearance of this edema, pain, which had decreased since the operation, returned, and from that time on became the most prominent symptom. Hubbard asks: Was this pain due to pressure exerted by the edema on nerves already in an enfeebled condition, or was it due to progress of the nerve changes started by the impending gangrene and not stopped by the apparent improvement in the circulation? He points out that the case demonstrated beyond dispute, for the first time in man, that an anastomosis can be performed which will remain patent for some time. The lesson taught by it is that a single anastomosis between the artery and the vein renders the return of the venous blood too difficult. A complete reversal of the circulation is, therefore, to be recommended. Whether this will prevent edema, and if so, the pain, remains to be seen.

Dominion Medical Monthly, Toronto

September

22 Gastrogenic Diarrhea. G. Chambers, Toronto.
23 Sterility in Women. F. A. Cleland, New York.
24 Glioma of Optic Thalamus. W. C. Heggie, Toronto.
25 Esophagoscopy and Tracheobronchoscopy. D. J. G. Wishart, Toronto.
26 Foreign Body in the Esophagus. D. J. G. Wishart, Toronto.

Bulletin Johns Hopkins Hospital, Baltimore

October

27 Clinical Methods of Investigating Cardiovascular Conditions. L. F. Barker, Baltimore.
28 *Small Epidemic of Jaundice with Symptoms of Gastrointestinal Catarrh. L. F. Barker and F. J. Sladen, Baltimore.
29 Primary Melanotic Sarcoma of the Ovary. M. C. Winternitz, Baltimore.
30 Results of the Injection of Beck's Bismuth Paste in Treatment of Tuberculous Sinuses. W. S. Baer, Baltimore.
31 Bleeding from the Intestinal Tract of an Infant in the Course of Alimentary Decomposition in the Sense of Finkelstein. S. Amberg, Baltimore.
32 Conveniences in Laboratory Technic. R. G. Perkins, Cleveland.

28. **Epidemic of Jaundice.**—Several features of this epidemic are emphasized by the authors. In the first place, the infectious character of the disease was clear. The sudden onset with chill, fever, headache, general muscular pains and leucocytosis are evidence of infection and intoxication. The negative results of blood cultures point to some local infection rather than to a bacteriemia. Secondly, the gastrointestinal features, nausea, vomiting, diarrhea and colicky abdominal pain make the diagnosis of gastroenteritis necessary, and this is in accord with the opinion that food, and probably meat, was the most likely source of the infectious agent. Thirdly, in every case the jaundice was obstructive in type, lasted only from two to three weeks, and exhibited the characteristics of catarrhal jaundice associated with gastroenteritis. A bacterial invasion of the bile passages and even the liver is possible. The finding of tyrosin in the urine of two cases is in favor of this. Fourthly, either water or food (the only things in common in these cases) must have been the source of the infection. The only positive results of the bacteriologic study in the authors' cases suggest the *B. paratyphosus* as the invading micro-organism. Two possibilities present themselves. Either it may be assumed that the bacillus already present in the intestinal tract of several prisoners rapidly multiplied during a period of lowered resistance from unknown cause, or the bacillus was introduced through the food. The sequence of events in these cases was as follows: (1) Ingestion of tainted meat, containing living paratyphoid bacilli; (2) development of a gastroenteritis due to this micro-organism; and (3) the appearance of a catarrhal jaundice due to extension of the gastroenteritis to the biliary passages.

Journal Infectious Diseases, Chicago

September

33 *Milk-Sickness. E. O. Jordan and N. M. Harris, Chicago.
34 [illegible] Pathology of Milk-Sickness. A. B. [illegible]
35 *[illegible] of Anaphylaxis (II). H. G. Wells, [illegible]
36 **Coccidioidal Granuloma and Blastomycosis in the Central Nervous System.* N. Evans, Nashville, Tenn.
37 *Toxic and Antigenic Properties of Bacterium Welchii. E. F. McCampbell, Chicago.
38 Influence of Scurvy on Hemorrhages in Plague. W. B. Wherry, Oakland, Cal.

33. **Milk-Sickness.**—Jordan and Harris give a complete review of the literature as to prevalence in early and recent times, symptoms, theories as to nature and other features of milk-sickness, together with full report of the results obtained by them from the examination of recent cases of the disease in cattle and horses (New Mexico) and in human cases (Illinois). The most pronounced lesions found post-mortem in cattle are fatty degeneration of the liver and heart muscle; similar changes were found in the single human case examined after death. From practically all the cases of the disease observed by the authors in man and animals they isolated a characteristic aerobic, spore-bearing bacillus—*B. lactimorbi*—which they also found in the soil of so-called milk-sick regions. Injected into and fed to rabbits and guinea-pigs the bacillus has little or no effect. When fed to dogs and cats symptoms and lesions similar to those in animals naturally milk sick were produced. Jordan and Harris do not feel that their facts absolutely establish that this bacillus is the cause of milk-sickness, because, as shown by Luckhardt, the bacillus seems widely distributed, even in regions where the disease has never been known to exist, and from the feces of normal cows. It is possible that where soil or other conditions are especially favorable, strains of the bacillus may assume pathogenic or toxigenic powers.

Luckhardt's observations indicate that the bacillus may occur more commonly on certain plants than on others. In view of the rarity of material available for the study of this disease, the facts recorded will be of value to others who come across the malady from time to time.

35. **Chemistry of Anaphylaxis.**—The experiments indicate that proteins cannot be decomposed much, if any, beyond the coagulable form without losing their anaphylactic properties. In order to establish the reaction of anaphylaxis, intact protein molecules in soluble form are necessary. It seems that ovomucoid may have a specific anaphylactic action, reacting only with itself, a form of specificness not conclusively demonstrated in other biologic reactions. Ovomucoid remains active even after being heated several hours at or near the boiling point and after being precipitated with alcohol, so that it is evident that heat affects the anaphylactic properties of proteins only when it renders the proteins insoluble.

36. **Granuloma and Blastomycosis in Central Nervous System.**—The lesions in the central nervous system in a case of coccidioidal granuloma are reported. Microscopically, they resembled very much those of tuberculosis, but tubercle bacilli were not found, while typical encapsulated and sporulating fungi were present. The indications are that the nervous lesions in coccidioidal disease have a predilection for the pia mater, while the nervous lesions in systemic blastomycosis tend more to involve the deeper tissues.

37. **Properties of Bacterium Welchii.**—The toxic substances of *B. welchii* (*B. aerogenes capsulatus*) are not true bacterial toxins, but products of the bacterial cells capable of generating organic acids, and in infections these acids act as toxic agents. Butyric acid of the same acidity as the cultures of the bacillus produces the same effect. The hemolytic and leucocytotoxic action of the bacillus is also due to organic acids. Opsonin and bactericidal substances for *B. welchii* are present in normal rabbit serum and may be increased on immunization, which also gives rise to agglutinins and precipitins. In test-tube experiments only, little phagocytosis of the bacillus takes place unless the bacteria are first washed free from the organic acid, beause the acids neutralize the opsonins in the serum and also cause marked changes in the leucocytes. The proteins of *B. welchii* give the anaphylaxis reaction. As shown by Holst, guinea-pigs, when kept on a one-sided diet consisting of different sorts of grain, groats or bread, may die in eighteen days or so from a disease that corresponds macroscopically and microscopically to human scurvy. Wherry's experiments were made with guinea-pigs rendered scorbutic in this way, and he found more hemorrhagic extravasation in such scorbutic animals than usually is seen otherwise. Hence, plague and scurvy in the same person might lead to excessive hemorrhage.

The Proctologist, St. Louis, Mo.

September

39 Progress in Proctology. G. B. Evans, Dayton, Ohio.
40 Review of Proctologic Literature from May, 1908, to May, 1909. S. T. Earle, Baltimore, Md.
41 *Operation for Pruritus Ani. T. C. Martin, Washington, D. C.
42 Treatment of Pruritus Ani. W. M. Beach, Pittsburg.
43 *Pruritus Ani. T. C. Hill, Boston.
44 *Ball's Operation in Pruritus Ani, with Report of a Case in which Necrosis of the Flap Occurred. L. J. Krouse, Cincinnati.
45 Prophylaxis and Treatment of Cicatricial Rectal Stricture. A. B. Graham, Indianapolis, Ind.
46 Spinal Anesthesia in Rectal Surgery. C. F. Martin, Philadelphia.
47 *Vaginal Anus in the Adult. L. J. Hirschman, Detroit.
48 Tuberculous Fistula, with Very Extensive Infiltration. S. T. Earle, Baltimore.
49 Fistulas in the Posterior Anal Commissure. J. C. Brick, Philadelphia.
50 Abdominal Massage as a Means of Relief in Chronic Constipation. T. L. Hazzard, Pittsburg.
51 Intestinal Autointoxication; Its Treatment by Irrigation. W. L. Dickinson, Saginaw, Mich.
52 Perirectal Abscess. J. A. MacMillan, Detroit.
53 Diseases of the Colon Due to Extra-Intestinal Causes, with Special Reference to Membranous Colitis. A. B. Cooke, Nashville.
54 Necessity for Routine Examination of the Rectum in Intestinal Diseases. D. H. Murray, Syracuse, N. Y.
55 *Ball's Operation for Internal Hemorrhoids. G. W. Combs, Indianapolis.
56 The Test-Diet, Nitrogen and Sulphate Partitions as an Aid to Diagnosis, in Intestinal Disturbances. J. M. Lynch, New York.
57 Primary Gonorrhea of Rectum in the Male. A. J. Zobel, San Francisco.
58 Multiple Adenomata of the Rectum. J. P. Tuttle, New York.
59 Surgical Treatment of Diarrhea and Description of New Cecostomy which Permits Free Irrigation of Both the Small and Large Intestine. S. G. Gant, New York.
60 Anomalous Sigmoids. A. Hebb, Baltimore.
61 Nevus of Anal Region with Report of Case Associated with Internal Hemorrhoids. L. H. Adler, Philadelphia.
62 Technic of Injection Treatment for Internal Hemorrhoids. E. A. Hamilton, Columbus, Ohio.
63 Appendicostomy as an Aid to the Treatment of Malignant and Intractable Dysentery. J. L. Jelks, Memphis.

41. **Anal Pruritus.**—Martin has modified the Ball operation in the following points: The use of a solution of cocain and adrenalin secures local anesthesia and a dry visible field for dissection. Radiating incisions do not endanger the nutrition of the parts. The corrugations of such flaps may be effaced by traction on their margins. A skin-tag may be removed within an elliptic incision, which by suture may be given a linear form. Radiating wounds require no suture, coaptate automatically when the patient is in extension and heal by first intention.

43. **Id.**—Hill advises instructing the patient to cleanse thoroughly the anal region after defecation, preferably with absorbent cotton soaked in some antiseptic solution, and then wrung dry. The parts should be protected from friction and the irritation of the discharge by wearing day and night an anal pad held in place by a T-bandage. The pad is best made with absorbent cotton wrapped with but one thickness of sterilized gauze. Too many thicknesses of gauze when ointments are used absorb the greasy portion of the ointment, and shortly the anal region becomes dry and coated, with only the irritating mineral ingredients left. The methods of applying and removing ointments are such important details that in the first few weeks of treatment the patient should be seen daily by the surgeon. To instruct the patient to use some of the ointment, morning and night, is not enough. Those cases in which the dermatitis is acute (eczema ani), accompanied by many excoriations from scratching and rubbing, require applications and ointments of a soothing and protective nature. In this latter class, in which the secretions are increased, Hill has found the *x*-ray of marked benefit. However, in the class of patients who are especially referred to here, the skin is nearly always tough and leathery and covered with dead and sodden epithelium. The problem in these cases is to bring about a gradual destruction of this newly formed epidermis, without too much inconvenience to the patient, and no agent, he asserts, serves the purpose better than nitrate of silver and citrin ointment applied as suggested by Adler.

It has been Hill's experience that in those cases in which the skin was considerably thickened and tough, the saturated solution of silver is more satisfactory. On the third day after its application, by placing hot fomentations over the anus for a few minutes, a layer of exfoliated epithelium may be removed almost *in toto*.

44. **Id.**—In order to derive the full benefit of Ball's original operation and still maintain the vitality of the flap, it is imperative that the flap dissected from the underlying tissue should receive its blood supply from the vessels coming from the skin; and that the circulation should be as abundant as possible. Krouse accomplishes this by making from 6 to 8 linear incisions through the skin and subcutaneous connective tissue. These linear incisions, beginning at a point outside of the point of irritation, follow the course of the radii of a circle whose center is the anal canal. The skin lying between the adjacent radii is then undercut until the whole affected area is undermined. Should the dissection be difficult, and more room be needed, then every alternate flap could be loosened at the anal margin and dissected outward toward the periphery. After all the adhesions are loosened and the bleeding has been stopped, the parts are again replaced and sutured.

47. **Vaginal Anus in the Adult.**—Hirschman suggests from his experience with two cases in the adult, that infants born with imperforate ani, in whom some abnormal outlet for the feces is present, it is far better to allow the patients to go on in their abnormal condition, until they grow old and strong enough for surgical interference and the correction of Nature's failure.

55. ***Ball's Operation for Internal Hemorrhoids.***—The results obtained by Combs with Ball's operation have not been so favorable as those that should follow the procedure, in the author's opinion. He found that the postoperative pain is greater than after the usual ligature or the clamp and cautery method. The duration of the healing period is not shortened because of the sloughing of the ligature from either the skin-ring or the pedicle before union takes place, leaving the wounds to heal by granulation. There is a necessity for unusual watchfulness that all ligatures may be removed as they slough. Failing to secure primary union, skin-tabs frequently remain for subsequent removal. No time is saved by this modification of the ligature operation. There is danger of secondary hemorrhage from an early tearing off of the pedicle by traction.

Western Medical Review, Omaha

September

64 Obstetric Anesthesia. F. A. Butler, Harvard, Neb.
65 Hay Fever. W. R. Hobbs, Omaha.
66 Lessons of the International Tuberculosis Congress, 1908. K. R. J. Edholm, Omaha, Neb.
67 Latest Phases of Vaccine Therapy in Pulmonary Tuberculosis. J. H. Tyndale, Lincoln, Neb.

Montreal Medical Journal

September

68 Cancer of th [illegible] ntreal.
69 *Cyst of the [illegible] A. Freedman, Montreal.
70 Analysis of [illegible] on Infants. J. McCrae, Montreal.
71 Treatment of Prostatic Obstruction. G. S. Gordon, Vancouver, B. C.

69. **Cyst of Wall of Carotid Artery.**—Freedman's patient died of acute lobar pneumonia. The autopsy which was performed three and a half hours after death, revealed the following pathologic conditions: acute left-sided lobar pneumonia, generalized arteriosclerosis, arteriosclerosis of coronaries and peripheral vessels, fatty change of the intima of the pulmonary artery, fatty and calcareous degeneration of the aorta, fibrosis of myocardium, calcification of papillary muscles, chronic interstitial nephritis and chronic mitral endocarditis. The generalized arteriosclerosis was of moderate grade, and affected not alone the aorta, but also the smaller vessels of the muscular type. In the right common carotid, at a distance of 2.5 cm. from its origin, and lying in a portion of the artery which showed few degenerative changes, was a small cyst with gelatinous contents occupying the middle zone of the arterial coat. The cyst was oval in shape, with its long axis running parallel to the direction of the vessel. The cyst lay on the anterior side of the artery, and from the inner surface of the vessel it was seen to project above the general level of the intima. Similarly when viewed from without, there was a definite bulging of the arterial coat in the adventitia. The intima covering the cyst was quite smooth and free from atheromatous or endarteritic change. Likewise, there was no evidencee of disease or of a neighboring inflammatory process on the external surface of the artery. The adventitia covering the cyst was quite pale and similar to the tissues in the neighborhood. On opening the cyst, it was found to contain a gelatinous semisolid substance, looking not unlike the colloid material of the thyroid. This material was of such consistency that it remained *in situ* after the cyst was bisected.

The inner and outer walls of the cystic cavity were formed by the arterial coats and were of about equal thickness. There was no evidence of a thinning of the vessel coats and the combined thickness of the inner and outer walls of the cyst was about equal to that of the wall of the carotid on either side of the cyst. Freedman claims this the only case of the kind on record.

Wisconsin Medical Journal, Milwaukee

September

72 *Pseudocoxalgia Relieved by Suggestive Therapeutics. R. Dewey, Wauwatosa.
73 Intravenous Therapy. A. N. Baer, Milwaukee.
74 Discussion of the Suicide Problem. A. W. Rogers, Oconomowoc.
75 *Conservative Surgery of the Ovaries. J. M. Dodd, Ashland.

72, 75. Abstracted in THE JOURNAL, Aug. 7, 1909, p. 480.

Archives of Pediatrics, New York

September

76 A Few of the Things a Pediatrician Should Teach. P. J. Eaton, Pittsburg.
77 Scarlet F[illegible] and So-Called Duke's Disease. [illegible] City, N. J.
78 Relation [illegible] phic Conditions of Infants. H. F. [illegible]
79 *Bacterial [illegible] Diseases. B. R. Hoobler, New York.
80 Sarcoma of Kidney. J. F. Bell, Englewood, N. J.
81 Status Lymphaticus. G. R. Satterlee, New York.
82 Empyema: Report of Two Cases. O. M. Schloss, New York.

79. **Bacterial Vaccines in Children's Diseases.**—Hoobler records the results obtained in the use of autogenous vaccines in 8 cases, each representing a general type of infection, in which he has used vaccines, but his conclusions are based on the outcome of all the cases on which he has used the vaccine treatment successfully. The paper reports the following cases: 1. Chronic bronchitis, following whooping-cough, complicated by acute purulent otitis media. 2. Bronchopneumonia, delayed resolution. 3. General rheumatic infection. 4. Septic infection after operation for double mastoid. 5. Streptococcic empyema following lobar pneumonia. 6. Streptococcic septicemia following acute purulent otitis media. 7. Furunculosis, complicating lobar pneumonia. 8. Furunculosis following infection from hypodermic injections. Hoobler claims for vaccines a place in the therapy of certain infective processes in children, which, until now, have resisted nearly all surgical or medical measures.

Detroit Medical Journal

September

83 The Laboratory as an Aid in Diagnosis. J. Sill, Detroit.
84 Mental Development of the Child and the Public School Curriculum. A. W. Ives, Detroit.
85 Talipes Equinovarus; Report of Case. V. L. Smith, Detroit.
86 Technic of Removal of Tonsil in Capsule. J. E. Gleason, Detroit.

Journal Arkansas Medical Society, Little Rock

September

87 *Duration of Treatment of Syphilis. E. C. Hay, Hot Springs.
88 Present Status of the *Spirochæta Pallida*. T. E. Sanders, Hot Springs.
89 Laboratory Diagnosis of Syphilis. E. P. Bledsoe, Little Rock.
90 Venereal Prophylaxis. G. O. Hebert, Hot Springs.
91 Tuberculosis. W. Crutcher, Pine Bluff.
92 Psychic Phenomena. J. Z. Sexton, Siloam Springs.

87. **Duration of Treatment of Syphilis.**—Hay says that the thorough and complete treatment of syphilis comprises methodical, intensive and prolonged administration of mercury, assisted with strict hygienic precaution, from the fifth to the twelfth year; complementary courses of treatment repeated every six or twelve months are necessary, and this treatment is not only curative but preventive. A properly treated patient usually escapes with slight secondary manifestations and his liability to later tertiary and parasyphilitic affections is notably diminished. In 95 patients thus treated the tertiary period remained mute and inoffensive. The offspring of these patients is practically immune in respect to heredosyphilis, and the women cease to be liable to repeated abortion.

Old Dominion Journal of Medicine and Surgery, Richmond

September

93 The County Medical Society. W. E. Driver, New Market, Va.
94 Indicanuria. H. B. Hiatt, Ashboro, N. C.
95 *Sarcoma of Upper Jaw, Cheek and Orbit. Removal of Half the Face. Anesthesia Administered by Rectum. G. P. LaRoque, Richmond, Va.
96 Operating Room Technic. E. H. Beckman, Rochester, Minn.
97 *Prevention of Nausea, Vomiting and Pneumonia Following General Anesthesia. L. F. Watson, Oklahoma City, Okla.

95. **Sarcoma of the Upper Jaw.**—LaRoque mentions a dressing which he employs after the removal of the superior maxilla to substitute for the dental plate while this structure is being made, and thus allow the patient to take sufficient food and to speak distinctly. The dressing consists of an ordinary gauze strip about one inch wide and 12 inches long. About 6 inches of this strip are placed in hot paraffin so that the meshes will be impregnated by this substance. The paraffin is then allowed to cool and the other end of the strip is lightly packed into the wound while the paraffin end is moulded so as to form a sort of hard palate.

97. **Prevention of Nausea.**—Watson urges the patient to drink an abundance of water for two days preceding the operation, and receive saline enemas every few hours after the operation, to lessen the thirst, nausea and shock. When not contraindicated by the operation, he says that it is sometimes advisable when ether mucus has been swallowed to allow the patient to drink all the water desired as soon as consciousness returns; if this is vomited, the stomach is washed out, and if it is retained the ether mucus is diluted. Another method advocated by Kelly that is often successful in preventing nausea and vomiting following ether narcosis, is to wash out the stomach thoroughly at the conclusion of the operation and then leave in the stomach 6 ounces of a saturated solution of magnesium sulphate.

Iowa Medical Journal, Des Moines

September

98 *Strangulated Hernia with Suspicious Gut: A Suggestion for Treatment. D. Macrae, Council Bluffs.
99 Local Cocain-Adrenalin Anesthesia. J. C. Hancock, Dubuque.
100 Necessary Failures in Brain Surgery. L. L. McArthur, Chicago.
101 Acute Pancreatitis. D. C. Brockman, Ottumwa.
102 Appendiceal Cyst. J. L. Crawford, Cedar Rapids.
103 Treatment of Acute Insanity. S. Brown, Chicago.
104 Surgical Treatment of Gastric Ulcer. O. J. Fay, Des Moines.

98. **Strangulated Hernia.**—When the gut is dark and suspicious Macrae makes an incision two inches long at the lower external border of the rectus muscle, draws the intestine out through this and wraps it in a towel or gauze wrung out of hot normal salt solution. The bowel is kept warm by repeated changes of gauze by an assistant while the operator proceeds with the operation for radical repair at the original site of the hernia. Much time is saved by this method by reason of the fact that no time is lost in the often tedious attempts made to determine the vitality of the gut. If after the operation for hernia is over, the gut is

found to have completely recovered, it may be returned and the second wound rapidly closed. On the other hand, if resection is demanded, it may be done more easily and thoroughly through the second opening, without interfering with the recovery of the original hernial site, which, if infected by the resection, is a most disagreeable complication. When the gut is absolutely gangrenous, with ulcerating areas, the intestine is drawn out until the normal healthy tissue presents, then tied off with strong silk, leaving the ends long. The dead portion is cut away, ends of the gut cauterized with carbolic acid and alcohol, hemorrhage controlled, and parts thoroughly cleansed. After a change of gloves, or rescrubbing, an incision is made, the same as described above, at the border of the rectus. The long ends of the silk are caught in forceps inserted through the second incision and the gut is drawn out through the latter. Macrae then proceeds to do a radical operation for hernia. In this class, however, he always provides two or more avenues for drainage. Attention is now directed to the bowel stump, general condition of the peritoneum, arterial pulsation of the mesentery, and other complications which may be present. When satisfied that the peritoneum is not sufficiently infected to cause trouble, the gut is united by any method most satisfactory to the individual surgeon.

Pennsylvania Medical Journal, Philadelphia

September

105 *Factors Influencing the Coagulation Time of the Blood. M. Solis-Cohen, Philadelphia.
106 Relations Between Blood Diseases and the Digestive Tracts. R. S. Lavenson, Philadelphia.
107 Two Hundred Surgical Cases in 1907, with Special Reference to Accidents, Errors and Results. C. E. Thomson, Scranton.
108 *Exstrophy of the Bladder Treated by Extraperitoneal Implantation of the Ureters into the Rectum: End-Results of Intestinal Implantation. J. J. Buchanan, Pittsburg.
109 Plea for a Stronger Effort to Acquaint Women with the Early Symptoms of Cancer of the Uterus. R. F. Woods, Philadelphia.
110 *Buried Catgut and a Subcuticular Stitch—in Plastic Operations on the Perineum. B. M. Anspach, Philadelphia.
111 Dysmenorrhea, Cervicismus as a Cause. C. E. McGirk, Phillipsburg.
112 *Treatment of Fracture of the Patella. F. LeMoyne, Pittsburg.
113 Aërophagia. J. J. Gilbride, Philadelphia.
114 Pancreatitis. C. R. Jones, Pittsburg.
115 Peripheral Facial Palsy of Syphilitic Origin. A. Gordon, Philadelphia.
116 Chromocystoscopy in Functional Renal Diagnosis Based on the Employment of Indigocarmin. B. A. Thomas, Philadelphia.
117 Medical Organization and Postgraduate Work. G. D. Nutt, Williamsport.
118 Medical Inspection of Public Schools. C. S. Rebuck, Harrisburg.

105. *Abstracted in* The Journal, *Oct. 31, 1908, p. 1542.*

108. A similar article was published in *Surgery, Gynecology and Obstetrics*, February, 1909.

110. **Subcuticular Stitch.**—In using the stitch employed by Anspach any form of perineoplasty may be selected; the only modification required is to insert and bring out the perineal sutures just inside the peripheral limits of the denuded area. After the sutures are tied and the ends are cut short, the skin is united over them with a running subcuticular stitch. It is important to use well-prepared catgut, of medium size, which will not be absorbed in less than two weeks. The commercial chromic gut answers very well. Formalin-cumol gut is the ideal suture material. A finer size should be used for the subcuticular suture, but it must be 8 or 10 day gut. For this reason the ordinary cumol preparation will not do. The perineum is cleansed daily with sterile water. There is no need for the careful drying and powdering which external sutures usually require. The patient does not complain of the discomfort which tied or knotted sutures often occasion; there are no sutures to remove; the case is virtually out of the surgeon's hands when the operation is completed.

112. **Fracture of the Patella.**—LeMoyne emphasizes that satisfactory adjustment may be accomplished in the majority of cases by drilling the fragments in an oblique direction, so that the wire shall not enter the joint. In single fractures, one loop of wire will be sufficient in whatever direction the fracture line may be. In multiple fractures additional wires will be necessary. The unguarded points of the wires are liable to become engaged in the cavities of the cancellated structure which may be partially avoided by applying a small drop of solder to each point. Ample exposure of the fragments by suitable incisions and retractions of the soft tissues must be provided. Holes should be drilled for the wires, entering near the border of the internal surface of each fragment and passing in an oblique direction to terminate in the fracture surface, near the edge of the articular face; two being placed in each fragment of a single fracture, parallel to each other and about one-half an inch apart. The terminals of such holes in each fragment should correspond in their location as nearly as possible with those in the other. A loop should be made of annealed iron wire, with branches of equal length; the Malgaigne hooks with long curves, or some similar appliance, may be used to facilitate approximation during the tightening and twisting of the wire.

Southern Medical Journal, Nashville

September

119 *Therape[illegible] culin to Wage-Earners. P. H. [illegible]
120 Modern [illegible] Surgery. P. Bromberg, Nashville.
121 Nephrolithotomy. M. Simons, Charleston, S. C.
122 Plea for Operative Cure of Hernia, and Employment of Cocain [illegible] La Roque, Richmond, Va.
123 *[illegible] Lipomata. H. P. Cole and G. J. Win- [illegible]
124 Morbus Coxarius, or Hip-Joint Disease. C. F. Anderson, Nashville.
125 Tonsillectomies. H. H. Martin, Savannah, Ga.
126 Spontaneous Occurrence of Cardiovascular Diseases in the Dog. W. de B. MacNider, Chapel Hill, N. C.
127 *Psychic Phenomena. J. Z. Sexton, Siloam Springs, Ark.

119. **Administration of Tuberculin to Wage-Earners.**—Ringer believes that it is in wage-earners that tuberculin has one of its most useful fields. Its administration, begun on the foundation laid by a strict regimen of hygiene and diet, finds the body at the outset in a receptive and comparatively well-prepared condition. Continued with moderation and with care, unhampered by the necessity for haste, aided and abetted by the constant physical supervision of the patient, finally sustained by short supplementary courses, it becomes the most potent medicinal agent in preserving the health and strength that have been restored by those three great surpassers of all specific medication: rest, fresh air and good food.

123. **Multiple Symmetrical Lipomata.**—Twelve years ago, the patient, a medical student, developed a skin eruption. This disappeared and reappeared at intervals for eight years, and was last seen four years ago. The patient recognized the disease as psoriasis. Shortly after the disappearance of the skin lesions, he noted numerous small masses under the skin. He complained of no discomfort or irritation from the presence of these tumors. The tumors had a tendency to disappear on massage, and some to reappear. Two on the abdomen disappeared permanently. The patient was a very well-developed muscular individual. There was considerable subcutaneous fat over the entire body. With the exception of the tumors the examination presented nothing abnormal or bearing on the pathologic condition. At the junction of the middle and lower thirds of each thigh in the anterior median line there was a subcutaneous tumor, ovalshaped, semisolid to the touch. The tumor was apparently fixed to the subcutaneous fascia, and was movable only with the skin. Each tumor was about 3x5 cm. in size; the long axis of the tumors lay in the long axis of the body. Two inches above, and two inches to the inner side of each tumor was a similar tumor at exactly symmetrical points in each thigh. These were slightly smaller and lie in the same axis. At the junction of the upper and middle thirds of each thigh on the anterior surface there was a similar tumor at symmetrical points. Each was about 2x4 cm. They lay in the long axis of the body. On the posterior surface of each thigh at the upper angle of each popliteal space there was a similar tumor, slightly smaller in size, same axis. One inch above each tumor in the popliteal spaces was a similar tumor, slightly smaller in size, same axis. On the posterior surfaces of the two thighs there were also six tumors arranged in three pairs at symmetrical points and lying in the same axis. One of the tumors was removed under cocain anesthesia for purpose of diagnosis. The tissue consisted of a lobulated mass 1x3x5 cm., and presented the typical gross and microscopic appearance of a lipoma.

127. Published in the *Journal Arkansas Medical Society*, September, 1909.

Archives of Internal Medicine, Chicago

September

128 *Effects of Cutting the Branch of the His Bundle Going to the Left Ventricle. L. F. Barker and A. D. Hirschfelder, Baltimore.
129 *Experimental Parotitis. I. C. Herb, Chicago.
130 *Unusual Lesions of the Lymphatic Apparatus. D. Symmers, New York.
131 Sphygmographic Study of Case of Complete Heart-Block. G. Bachmann, Philadelphia.
132 *Effects of Administration or the Withholding of Iodin-Containing Compounds in Normal Colloid or Actively Hyperplastic (Parenchymatous) Thyroids of Dogs. D. Marine and C. H. Lenhart, Cleveland, Ohio.
133 *Observations on a Child with a Gastric Fistula in Relation to Recent Advances in Physiology of Gastric Digestion. R. S. Lavenson, Philadelphia.
134 Absence of Adrenalin in Malignant Renal Hypernephromas. J. R. Greer and H. G. Wells, Chicago.

128. **Cutting Branch of His Bundle.**—In all, 14 operations were performed by Barker and Hirschfelder, in 5 of which the left branch of the His bundle was cut without injury to the right. In all but one of the successful experiments this was followed by complete atrioventricular heart-block, but both ventricles contracted synchronously. The rhythm was the slow, regular, independent ventricle rhythm. In these experiments several cuts were made, and the heart stopped beating after a few minutes, so that it cannot be stated whether the complete block was due to the section of the branch and the trauma to the entire bundle, or was merely a terminal phenomenon. In one experiment, however, in which only a single cut was made, the ventricular rate remained entirely unchanged and no block was present. The heart continued to beat vigorously even after removal from the body. The left branch of the atrioventricular bundle was cut through, but the septum was not pierced and the right branch was absolutely intact. It would appear, therefore, that the His bundle plays little, if any rôle in the coordination of the two ventricles. The muscular bridge between the two chambers is formed by the entire musculature of the heart wall, and hence there is no such narrow connection as is present between atria and ventricles at which a block might be produced. It seems more probable that any such incoordination, if present, would be between the different layers of muscle fibers common to the walls of both ventricles, rather than between the two ventricles themselves, and that in some cases of apparent hemisystole seen in animals just before the heart stops beating (and after the circulation has ceased) the outer layer of fibers in one ventricle has stopped beating while the outer layer of the other (inner layer of the first) continues to beat for a few minutes longer.

129. **Experimental Parotitis.**—The principal, distinguishing or characteristic features of a diplococcus isolated by Herb from a case of mumps are the following: Gelatin is very slowly liquefied. In broth a slight cloudiness is produced in twenty-four hours; later a tenacious deposit forms in the bottom of the tubes. Milk is soured in twenty-four hours and coagulated in forty-eight hours. Potato produces a grayish-white abundant growth. Agar cultures show pearly white, tenacious, pin-point, round, discrete colonies. There is no production of indol. The organism occurs most frequently as a diplococcus, occasionally in small groups or chains of from four to six elements. It is non-pyogenic. When injected into Steno's duct in monkeys and dogs this diplococcus causes a diffuse non-suppurative parotitis, the infiltration being composed of mononuclear cells, and occasionally also orchitis of a similar character. In one case of human mumps (the only one studied) a similar rise of the opsonic index for this organism took place. Herb believes that there is consequently good reason to regard this diplococcus, which corresponds well with the description given by Laveran and Catrin of the diplococcus isolated by them from cases of mumps, as the actual cause of mumps and the disease produced in dogs as genuine experimental mumps.

130. **Hodgkin's Disease and Pseudoleukemia.**—In view of the doubtful etiology of Hodgkin's disease and the several synonyms which have been incorrectly applied, Symmers suggests the term "Hodgkin's granulomatous lymphoma" for the usual one of "Hodgkin's disease," because it designates the type of tissue in which the disease commences, the initial changes by which it is characterized, and the secondary changes that occur in the course of its development, while it reserves to Hodgkin the recognition that is due him. At all events, it is scarcely justifiable to employ the term "pseudoleukemia" as a synonym for "Hodgkin's disease," since the two processes, when fully developed, are readily separable and present totally different histologic alterations. From microscopic studies Symmers is convinced that there is a primary splenic form of Hodgkin's disease, and that the abdominal lymph nodes may be the seat of origin. The histogenesis of Hodgkin's disease, both in the lymphatic system proper and in the viscera, appears to be conceived in the formation of lymphomatous foci, while the characteristic granulomatous changes are sequential.

132. **Iodin in Thyroids.**—Marine and Lenhart summarize the results of their experiments as follows: 1. The tendency of all active hyperplasias is to revert spontaneously to colloid glands, and this change is hastened or delayed by the presence or absence of iodin. The amount of iodin given is of little consequence in normal and colloid glands, but is of the greatest significance in the active hyperplasias. 2. The ability of the glands to take up iodin does not depend so much on the form, mode or amount of its administration as it does on the degree of active thyroid hyperplasia. 3. There is a minimum amount of thyroid tissue below which iodin does not protect against compensatory hyperplasia. This limit is roughly the same whether colloid or normal gland.

133. **Gastric Fistula.**—Lavenson states that the importance of psychic stimuli in the production of gastric juice as determined by Pawlow and others in animals applies equally well to man. These psychic stimuli may be classified as positive and negative. Positive psychic stimuli are those which induce a flow of gastric juice. Negative psychic stimuli are those which inhibit or annul a gastric secretion. Psychic stimuli, both postitive and negative, may originate in the higher mental processes as memory and imagination, or, as is more usual, they may come from without and influence gastric secretion by appealing to any one of the five senses. Those stimuli which influence gastric secretion by appealing to the senses of taste or smell may be called direct psychic stimuli; those that act through the other senses or originate in higher mental processes may be called indirect or associated psychic stimuli. This dependence of gastric secretion on psychic processes and stimuli permits the formulation of the statement that appetite is the emotional expression of the group of phenomena of which the secretion of gastric juice is the psychic expression. The mechanical act of chewing seems to be powerless to induce a secretion of gastric juice; if the act of chewing becomes mentally associated with the process of eating agreeable food it probably is capable of inducing a flow of gastric juice. The human stomach appears to behave in the same way toward chemical stimuli as does the dog's stomach. Water is a definite though not a powerful stimulus to gastric secretion. Hydrochloric acid is not a stimulus to gastric secretion. Egg albumin does not induce the secretion of any more gastric juice than does an equal amount of water. The same is true of tea and commercial preparations of pepsin. Beef extracts are powerful stimuli to the secretion of gastric juice. Bitter stomachics, though of themselves incapable of inducing a secretion of gastric juice, when administered previous to a substance which does induce a secretion of gastric juice, are capable of increasing this secretion. In other words, they may be looked on as sensitizers of gastric secretion. This sensitizing action is manifested when the stomachic is introduced directly into the stomach or when it merely remains for a time in the mouth and pharynx. Its action seems to be more powerful in the latter case than in the former. From the observations Lavenson made on the effect of the introduction of acid and alkaline solutions into the stomach it appears probable that the predominating influence in the control of the periodic opening of the pylorus is exerted by the chemical reaction of the contents on the duodenal side of the pylorus. Though the chemical reaction prevailing on the gastric side of the pylorus is of importance in the pyloric mechanism, it is distinctly subordinate to that on the duodenal side. This hypothesis explains the slow discharge of gastric contents of high acidity and the more rapid discharge of gastric contents of low acidity.

International Clinics, Philadelphia

Volume III, Nineteenth Series

135 Treatment of Tuberculosis. A. P. Francine, Philadelphia.
136 Present Position of Antitetanic Serotherapy. L. Lagane, Paris, France.
137 Mesmer and Perkin's Tractors. D. Waterson, Baltimore.
138 Clinical Observations in 500 Cases of Typhoid. J. H. Barach, Pittsburg.
139 Graves' Disease, Raynaud's Disease, and Some of the Allied Forms of Vasomotor Disorder (Vasomotor Ataxia). S. S. Cohen, Philadelphia.
140 Gonococcus Septicemia. G. Dieulafoy, Paris, France.
141 Women in Medicine. J. J. Walsh, New York.
142 Association of Migrating [illegible] ...ith Thrombo-angeitis Obliterans. L. [illegible]
143 Exophthalmic Goiter from [illegible] Clinical Surgeon. A. J. Ochsner, Chicago.
144 Post-Operative Complications. D. N. Eisendrath and D. C. Straus, Chicago.
145 Pathology and Surgical Treatment of Bilocular Stomach. C. G. Cumston, Boston, Mass.
146 Early and Complete Resection of Varicose Veins of Leg. O. Alglare, Paris.
147 Cases at the Samaritan Hospital for Women, Montreal. A. L. Smith, Montreal.
148 Constitutional Treatment of Chronic Pelvic Diseases. C. D. Palmer, Cincinnati.
149 Congenital Joint Deficiencies. C. H. Muschlitz, Philadelphia.
150 Hirschsprung's Disease. P. S. Potter, North Adams, Mass.
151 Unforeseen Death in Scarlet Fever. Drs. Gouget and Dechaux, Paris.
152 Radiographic Examination of the Gastrointestinal Tract from a Practical Standpoint; in Connection with Diagnosis and Treatment of Gastroenteroptosis. H. K. Pancoast, Philadelphia.
153 Intracranial Complications of Acute and Chronic Suppurative Otitis Media. E. B. Dench, New York.
154 [illegible] ...ldhood, with Consideration of Pathologic ...ases of Retarded Mental Development. ...ladelphia.
155 [illegible] Headaches. T. Diller, Pittsburg.
156 [illegible] I. Lederman, Louisville, Ky.
157 Exotic Dysentery. P. G. Woolley, Omaha.

American Journal of Public Hygiene, Boston

August

158 Principles of Smokeless Combustion. E. S. Hallett, St. Louis.
159 Pollution of the Great Lakes. J. A. Amyot, Toronto.
160 *State Control of Public Water Supplies. C. O. Probst, Columbus, Ohio.
161 Water Problem of Illinois and Neighboring States. E. Bartow.
162 Water Problems of the Middle West. R. J. Manion, Fort William, Ont., Canada.
163 Diseases Found in the Interior of the Northwest of Canada. J. H. O'Donnell, Winnipeg, Man., Canada.
164 Commercial Pasteurization of Milk. B. R. Rickards, Columbus, Ohio.
165 Routine Counts of Bacteria in Water Supplies. K. F. Kellerman and H. A. Whittaker.
166 Determination of Nitrates by Reduction with Aluminum. E. Bartow and J. S. Rogers.
167 Certain Paracolon Forms Found in Polluted Deep Wells. E. B. Phelps and F. S. Hammond, Trenton, N. J.
168 Aesculin Bile Salt Media for Water Analysis. F. C. Harrison and J. Van Der Leck.
169 Aesculin Bile Salt Media for Milk Analysis. F. C. Harrison and J. Van Der Leck.
170 Relative Proportion of Bacteria in Top Milk and Bottom Milk. J. F. Anderson, Washington.
171 Some Freak Results from Animal Inoculations. B. L. Arms, Boston.
172 Investigation to Find the Most Economic Ratio of Permanganate to Formaldehyd for Use in Practical Permanganate Formaldehyd Disinfection. H. W. Hill and M. G. Roberts, St. Paul.
173 Longevity of *B. Tuberculosis* in Sputum. B. R. Rickards, Columbus, Ohio, F. H. Slack and B. L. Arms, Boston.
174 Maryland Biometer and Its Mathematic Relations. M. L. Price, Baltimore.
175 Typhoid Fever: Incidence of Disease as Contracted in Massachusetts General Hospital from 1899 to 1908. L. H. Spooner, Boston.
176 Protective Inoculation Against Typhoid. M. W. Richardson, Boston.
177 Conveyance of Bacteria by Sewer Air. C. E. A. Winslow, Boston.
178 Personal Hygiene. P. G. Stiles, Boston.
179 Municipal Sanitation. C. V. Chapin, Providence, R. I.
180 Vital Statistics. M. L. Price, Baltimore, Md.
181 Public Health Legislation, News and Notes. F. H. Slack, Boston.
182 Veterinary Hygiene. W. L. Beebe, St. Paul, Minn.

160. Abstracted in The Journal, Sept. 12, 1908, p. 942.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

September 25

1 Medical Aspects of Athleticism. W. T. Brooks and C. Dukes.
2 *Natural Experiment in Cardiac Strain. C. Riviere.
3 *Administration of Oxygen in High Percentage. B. Moore.
4 Pneumaturia. Apparently the Sole Indication of Glycosuria. F. C. Eve.
5 Influence of Soil on Phthisis as Illustrating a Neglected Principle in Climatology. W. Gordon.
6 The Gastroscope and Its Use. H. S. Souttar and T. Thompson.
7 Hour-Glass Contraction of the Stomach. A. G. Gullan.
8 Tic Douloureux: Technic and Results of Schlösser's Method of Treatment. P. Stewart.
9 Treatment of Tabes Dorsalis. T. A. Williams.
10 Pruritus in Lymphadenoma. H. D. Rolleston.
11 The Value of Mental Symptoms in Diagnosis. W. J. McGuire.
12 The Pathology of Innocent Goiter. H. Chambers.
13 Absence of the Altmann's Granules from Cells of Malignant New Growth. H. Beckton.
14 Cancer of the Pylorus. J. L. Smith.
15 Roentgen Ray Carcinoma. C. W. Rowntree.
16 Etiology of Dysentery. M. A. Ruffer and J. G. Willmore.
17 Value of Colored Substrata for the Detection and Differentiation of the Typho-coli Group. E. J. McWeeney.
18 Heterologous Agglutinins. W. J. Wilson.
19 *Portals of Entry of Tubercle Bacilli into the Body. L. Cobbett.
20 Protozoan Origin of Tumors. W. F. Robertson and M. C. W. Young.
21 Effect on the Growth of Micro-Organisms of Different Percentages of Oxygen. B. Moore and R. S. Williams.
22 Eye Injuries in Relation to Workmen's Compensation. F. Fergus.
23 Ipsolaterality of Optic Neuritis and the Lesion Causing It. Sir V. Horsley.
24 Acute Orbital Periostitis Consequent on Dental Disease. N. B. Harman.
25 Adenoids and Asthenopia. W. M. Killen.
26 Compressed-Air Illness Cured by Recompression. G. C. C. Damant and E. R. Lockwood-Thomas.
27 *Calomel in Asthma. C. B. F. Tivy.
28 *Simple Method of Treating Certain Fractures of the Mandible. H. P. Pickerill.

2. **Cardiac Strain.**—With a view to coordinating ideas on the subject of cardiac enlargement in boys, Riviere carefully examined the hearts in a large number of boys taken at random, and also under conditions which necessarily throw a strain on this organ. The importance of the inquiry impressed itself on him as the result of an examination of a party of 40 boys chosen for a school holiday excursion, and a description of this excursion and its result form the basis of his paper. The party consisted of boys ranging from 7 to 14 years. The excursion was of a week's duration and planned to be of educational value; the locality chosen was a hilly district, the actual center being established on a hill at the height of 600 feet above sea level, with a climb of 400 feet from the valley below at the end of each day's tramp. Expeditions were undertaken daily, including the day of arrival and also that of departure. Breakfast was at 8 a. m. on most days, and an early morning walk at 6:30 a. m. was part of Sunday's program. The actual road distance covered each day was from 5 to 7 miles, but the expeditions lasted the whole of each day, the time being well filled with sightseeing and instruction. On two days the walking for the bigger boys was increased up to twelve miles. In addition to excursions any available time was given over to football and games. In short, it is obvious that the boys were subjected to considerable physical strain. At the same time the hours of sleep were decidedly insufficient; bedtime was 9 to 9:30 p. m. and lights were out at 9:45, but as the boys generally rose at 6 a. m. provision was made for but eight and a half hours of sleep.

The boys were medically examined ten days before starting, and were mostly well-built and sound. Examined again five days after their return, 20 out of 33, or rather over 60 per cent. of these healthy boys were found to show cardiac enlargement of various grades. This was, in most cases, no temporary condition, for at subsequent examinations at the end of two, four, six and ten weeks, only a few of the hearts each time had returned to normal, and 10 of them, or 50 per cent. still remained dilated two and a half months after the excursion. An interesting point was the age incidence of these cases of dilatation. Of boys of 13 and 14 years, only 3.6 per cent. suffered; at ages of 10, 11 and 12 years, 75 per cent. suffered, and among the youngest boys, of 7, 8 and 9, fully 83 per cent. were affected. With regard to the 7 boys whose hearts were already strained, in all but 1 there was an increase of dilatation in spite of restrictions.

3. **Administration of Oxygen.**—Moore claims that the usual methods of administering oxygen by delivering it from a steel bottle in a constant stream into a tube or funnel or open mask are so wrong in principle as to be practically useless,

and it is questionable whether the patient ever gets a mixture containing more than a small percentage of oxygen above the atmospheric amount, nearly all the oxygen escaping into the air of the room. The nature of the respiratory process is such that the patient does not require a continuous stream of oxygen bubbling out at or near the mouth, but rather a plentiful reservoir to breathe from rapidly each time he draws his breath. An apparatus based on this principle for continuous administration of a high percentage of oxygen consists of a collapsible holder, or gas-bag, sealed off from the air below by a water seal, and having in its base four large circular trays containing lime slaked with caustic soda for uptake of carbon dioxid during the breathing. The bag is first filled with oxygen, either made from the potassium permanganate, or obtained from a steel gas cylinder. The patient then simply breathes backward and forward into the bag through an air-tight mask and a very wide tube. There are no valves to obstruct the breathing, and the carbon dioxid is completely taken up by the soda lime. No discomfort whatever is felt in using the apparatus, nor was there any difficulty in breathing.

19. **Portals of Entry of Tubercle Bacilli.**—Cobbett endeavored to find out: 1. Whether or not bacteria can gain entrance to the lungs directly through the air passages. 2. Whether, after being absorbed from some part of the alimentary canal, they can pass at once through the lymph glands and gain entrance to the lungs. The general intention of the experiments was to throw light on the question of the portals of entry of the tubercle bacilli into the human body in the causation of phthisis. The experiments, as a whole, are not yet completed, but they show already that in the guinea-pig, bacilli suspended in the air readily pass down the bronchi deeply into the lungs. The experiments are not sufficiently advanced to justify conclusions as to the course of infection which follows the introduction of tubercle bacilli into the alimentary canal.

27. **Calomel in Asthma.**—Tivy prescribes a powder of calomel, from ½ to 2 grains, according to the habit of the patient, accompanied, of course, by some of the usual antispasmodic remedies, and his experience is that relief is rapidly obtained, even before purgation takes place. Other cathartic drugs do not seem to have the same effect or certainly not so rapidly, and the ease with which all the powder or tablet is taken is an important factor.

28. **Fractures of Mandible.**—Pickerill's method consists in fixing the lower to the upper jaw by means of horizontal ligatures passing round the crevices of two or more teeth in each jaw, the ligatures being securely connected by a *third* ligature. The method is said to be especially applicable to fractures at the angle of the mandible or in the region of the last molar tooth.

Lancet, London

September 25

29 Modern Moods and Movements in Medicine. Sir T. Oliver.
30 Treatment of Lupus Erythematosus. Sir M. Morris.
31 Spinal Anesthesia in Children and Infants. H. T. Gray.
32 Acute Torsion of a Wandering Spleen; Splenectomy; Recovery. I. MacDonald and W. A. Mackay.
33 *Arteriovenous Anastomosis for Gangrene. D. J. Armour and E. A. Smith.
34 Treatment of Syphilis by Intramuscular Injection of Insoluble Salts of Mercury as Contrasted with the Inunction Method. H. C. French.
35 *Congenital Dislocation of Hip-Joint: Ultimate Results of the [illegible] and Note on New Open Operation [illegible] J. J. Clarke.
36 Juvenile Myxedema. D. A. Thomson.
37 Trypanosoma Dimorphon Dutton and Todd: T. Confusum, SP. Nova. R. E. Montgomery and A. Kinghorn.

33. **Arteriovenous Anastomosis for Gangrene.**—The patient, a very feeble old man, aged 69, complained of swelling, coldness, and feelings of pins and needles in his right leg and foot. The arteries were tortuous and thickened, the pulse tension was not high; the right leg and foot were cyanosed and the circulation in them was very sluggish. The pulse could be felt in the right femoral artery, but not in the popliteal or below it. Being fully aware that his leg was doomed if left alone, he was willing that an arteriovenous anastomosis should be done with the view of reversing the circulation of the limb and so attempting to stay the gangrene by conveying arterial blood through the branches of the veins. The operation was done under spinal analgesia. The upper end of the femoral artery was then sutured to the lower end of the femoral vein. Finally the internal saphenous vein was exposed at the upper end of the thigh and divided between ligatures, in order to close the most obvious of the possible short-circuits of the circulation of the limb. On the seventh day after the operation the condition of the leg was—no further extension of the gangrene, and a distinct pulse and thrill to be felt over the vessel as far as the adductor foramen. Fourteen days after the anastomosis it was necessary to amputate the leg by the circular method, a hand's breadth above the knee-joint. After dividing the main vessels it was seen that the vein (as originally constituted) was patent, while the artery was occluded with fibrinous clot. On tying the vessels and loosening the tourniquet the vein pulsated in the end of the wound exactly as a ligatured artery would. There was no blood extravasated in the sheath of the vessels, showing that the suture line had held absolutely fast.

35. **Congenital Dislocation of Hip-Joint.**—The operation done by Clarke consists in exposing the joint from behind, making a small opening in the lowest limit of the posterior aspect of the capsule, and introducing an elevator to raise the periosteum and with it the cotyloid ligament for a short distance at the upper and posterior borders of the acetabulum. Next three stout silk stitches are passed in turn through the periosteum, thus raised into the joint cavity under the cotyloid ligament, out of the capsule again and through a fold of the capsule, then once more through the capsule near its femoral attachment, where the two ends are tied. These stitches remove the over-distention of the back of the capsule and hold the cotyloid ligament over the outer part of the head of the femur. The limb is put up in plaster, as after the manipulative operation, which must always have preceded this open operation. The postoperative course is like that after the manipulative operation, and in the cases so treated there was no evidence of intraarticular adhesions being present when the plaster was removed. This proceeding differs from the open operations of both Hoffa and Lorenz, which involve an excavation of the acetabulum, and, when necessary, a reshaping of the femoral head through a free opening in the joint capsule.

Clinical Journal, London

September 8

38 Puerperal Septicemia and Its Modern Treatment. G. B. Smith and J. W. Eyre.
39 Disorders of the Cerebral Circulation and Their Clinical Manifestations. A. E. Russell.
40 Spa Patients. D. W. R. Gore.

September 15

41 *Colostomy. F. C. Wallis.
42 *Disorders of the Cerebral Circulation and Their Clinical Manifestations (continued). A. E. Russel.
43 *Painful Spots in Appendicitis. M. Lejars.

September 22

44 Diagnosis of [illegible] lacker.
45 *Disorders of [illegible] d Their Clinical Manifestations [illegible]

41. **Colostomy.**—Wallis again describes the operation he has performed for the past fourteen years with good results.

42. **Cerebral Circulation.**—In this lecture Russell discusses convulsions, physiologic mechanism underlying recovery from an epileptic fit, postepileptic phenomena, cerebral intravascular clotting as the cause of the epileptic fit, and vasomotor spasm in the brain as a cause of epilepsy.

43. **Painful Spots in Appendicitis.**—Speaking generally, says Lejars, the point of maximum tenderness, when clearly defined and fixed, affords a very fair indication of the situation of the appendix, but the area of tenderness spreads as the adhesions become more extensive. Certain is it that without carrying the search for the painful spot too far, thus incurring the risk of setting up hematomata of the mesoappendix, without departing from an attitude of caution and not neglecting lightness of touch, the direct and indirect exploration of the whole abdominal wall, and especially of the ileocecal region, from the point of view of pain, retains its importance in the diagnosis of appendicitis, with the reservation, however, that no exclusive importance be attributed to this or that spot in particular.

45. **Cerebral Circulation.**—Russel concludes his lectures by discussing migraine, *petit mal*, infantile convulsions, the symptoms following on sudden and prolonged cerebral anemia, and similar symptoms resulting from prolonged chloroform syncope.

Journal Laryngology, Rhinology and Otology, London

September

46 Histology of Nasal Accessory Sinus Suppuration. J. S. Fraser.

Archives générales de Chirurgie, Paris

August, III, No. 8, pp. 771-864

47 *Primary Gastric Sarcoma. (Les sarcomes primitifs de l'estomac.) Lofaro.
48 *Gangrenous Inflammation of the Penis. E. Tédenat and J. Martin.
49 Backward Dislocation of the Forearm. (Luxation bilatérale et symétrique de l'extrémité inférieure du cubitus en arrière avec radius curvus.) R. Burnier and A. Neveux.
50 Fistula and Sequesters in Steno's Duct. (Fistule sténonienne.) Mauclaire.

47. **Sarcoma of the Stomach.**—Lofaro reports two cases from Durante's clinic at Rome and states that in 39 operative cases on record 17 of the patients did not survive the operation.

48. **Gangrenous Inflammation of the Penis.**—Tédenat has operated in two cases with superficial gangrene, and knows of a similar case on record, all with successful outcome. In four others the fascia was involved, one in his own experience, although there was more destruction of tissue in this group. In ten other cases the inflammation involved the corpus cavernosus, with total destruction, the list including two from his own experience. The general symptoms in this last group were severe, but only one of the patients succumbed. The only means of knowing the extent of the process is by early and deep incision, and this should be the rule, as otherwise a mild simple process may result in great destruction, as in a few of the cases reported. In one the abscess in the cavernosus was not discovered until at autopsy.

Obstétrique, Paris

August, II, N. S. No. 8, pp. 545-627

51 *Review of 148 Suprasymphyseal Cesarean Sections. (L'opération césarienne supra-symphysaire.) C. Jeannin.

51. **Suprasymphyseal Cesarean Section.**—By this term Jeannin means the Frank-Sellheim technic of operative delivery and he has been able to find records of 148 such operations which he here summarizes and compares from various standpoints. The method has passed through several phases since Frank proposed the suprasymphyseal transperitoneal Cesarean section in 1907. This was modified by Sellheim into an extraperitoneal technic, which seems to have the greatest vogue at present. The mortality of the mothers was 3.08 per cent. for the latter and 3.8 for the transperitoneal technic. The extraperitoneal method is more difficult on account of the danger of injury of the bladder. The total morbidity of the mothers with suprasymphyseal delivery was 30.7 per cent., including 25 per cent. from infection; the total mortality was 7.37 per cent.; from infection, 4.21 per cent., while that of the children was 8.18 per cent., or omitting the cases in which other causes were responsible, 3.62 per cent. Jeannin concludes his review with the remark that neither the figures nor the histories of the cases show that the suprasymphyseal technic has any advantage over ordinary Cesarean section, other things being equal, but if there is suspicion, but not actual certainty, as to infection, the suprasymphyseal technic is safer. Neither should be considered in case of known infection.

Presse Médicale, Paris

September 15, XVII, No. 74, pp. 649-656

52 *Sciatica of Tuberculous Origin. (Sciatique radiculaire d'origine tuberculeuse.) Lafforgue.

September 18, No. 75, pp. 657-664

53 *Transient Peripheral Neuritis in Parturients. (Des névrites périphériques transitoires dans l'état puerpéral.) E. Bonnaire and Rosenzwitt.
54 *Technic for Administration of Colchicum. (Comment il faut administrer le colchique.) A. Martinet.

52. **Sciatica of Tuberculous Origin.**—Lafforgue's patient was a young soldier, and the tuberculous nature of the sciatica was evidenced by exclusion, by the fever that accompanied each recurrence of the pain, the debility, tuberculous lesions in the right apex, positive seroreaction and the fact that there was no trace of endocarditis which apparently excluded rheumatism as the cause of the four serious and prolonged attacks of the sciatica. The sciatica was evidently of radicular origin, and due to toxins rather than to mechanical compression, as there were no signs of lesions in the spine or pelvis, and no lymphocytosis, while the comparatively rapid course of the sciatica and its complete subsidence speak also in favor of a toxic origin. There are about ten cases on record of typical radicular sciatica; syphilis or gonorrhea was incriminated in the etiology of the majority, but in two a tuberculous origin was beyond question. In the present case the subsidence of the sciatica seemed to have been hastened by potassium iodid, antipyrin and belladonna.

53. **Transient Peripheral Neuritis in Parturients.**—Bonnaire remarks that the slight transient neuritis generally fails to attract attention as the woman lies in bed, but that it should be sought for, as failure to differentiate it may lead to wrong therapeutic measures. Leopold Meyer found this transient neuritis in 1.7 per cent. of 1,000 parturients examined at Copenhagen, while in Bonnaire's experience at Paris it has been found in 4.7 per cent. The neuritis may involve one or more branches of a nerve; but the most usual site is in the lumbar plexus. Pain on pressure is the most constant and sometimes the only sign of the neuritis, but there may be also paresis of the psoas, anterior rectus or adductor muscles of the thigh. Spontaneous pain may be constant or intermittent and may range from slight to intense, exaggerated by movements. The pain follows the course of the nerve and may radiate to the front and inside of the thigh, with or without hyperesthesia or anesthesia of the skin above. The knee-jerk is exaggerated, and there may be slight edema and cyanosis of the leg. The neuritis may be bilateral but is generally confined to one side. This neuritis is frequently mistaken for phlebitis, and treatment is applied directly contrary to the indications for the neuritis. Instead of the immobilization required on suspicion of phlebitis, the limb with neuritis should be exercised and massaged to prevent trophic disturbances, atrophy and impotence. Mistaken treatment may thus transform an insignificant, promptly curable affection into a chronic infirmity. The pain of the neuritis can be differentiated from the disturbances resulting from the birth trauma by studying its localizations, not mistaking the sensitiveness of the body of the pubis, from relaxation of the symphysis, for a tender nerve. If a fold in the abdominal wall, just above the crest of the ilium, is taken up between the fingers, pain can be elicited by pinching the fold, in case of neuritis, while if the pain is deep in the abdomen it is merely due to soreness of the uterus and adnexa. The tenderness with neuritis is, of course, most marked at the point where the nerve emerges.

54. **How to Administer Colchicum.**—Martinet declares that when a patient is taking colchicum the slightest gastrointestinal disturbance, especially diarrhea, is an imperative warning to discontinue the drug. All the remedies for gout on the market, he says, contain more or less colchicum, and the gouty are liable to do themselves serious injury if they dose themselves without medical supervision. He has had 2 such cases of grave colchicum intoxication in his experience, and states that it is our duty to warn gouty patients of this danger.

Semaine Médicale, Paris

September 13, XXIX, No. 37, pp. 433-444

55 Clinical and Experimental Serum Anaphylaxis. Weill-Hallé and H. Lemaire.

September 22, No. 38, pp. 445-456

56 Implantation of Vasa Deferentia in Anterior Urethra. A. Boari.

Berliner klinische Wochenschrift

September 13, XLVI, No. 37, pp. 1677-1716

58 *Cancer in Man and Animals. (Ueber den Krebs der Menschen und der Tiere.) E. F. Bashford. Commenced in No. 35.
59 *Significance for Pathology and Treatment of Gonorrhea of Involuntary Contraction of the Muscles, and Its Dependence on Atropin. (Bedeutung unwillkürlicher Muskelkontraktionen und deren Abhängigkeit vom Atropin für die Pathologie und Therapie der Gonorrhoe des Mannes.) C. Schindler.
60 [illegible] Bacilli. (Kombinierte [illegible] S. Hatano.
61 [illegible] irung der [illegible] in ihren
62 *[illegible] Injection of Cocain. [illegible] Cocain in die Vene.) C. Ritter.

58. Abstracted in THE JOURNAL, Sept. 18, 1908, p. 968.

59. **Importance of Automatic Muscular Contractions in Spread of Gonorrheal Process.**—Schindler has studied the automatic muscular contractions in the genital organs which his experimental research has shown are a constant and physiologic phenomenon. These muscular contractions may also be elicited by reflex stimuli. They are an important factor in the spread of the gonorrheal infectious process, and treatment should aim to suppress them entirely. This can be accomplished by keeping the patients under the influence of atropin, and he makes it a rule to order suppositories twice a day, each containing 0.001 gm. atropin, or 0.002 or 0.003 gm. can be injected subcutaneously. The tolerance of human beings for atropin kept up for weeks is surprising. No massage of the prostate is allowed during the acute and subacute phase of the gonorrheal process, as this stimulates still more the muscular contractions which spread the infection. If the prostate is inflamed he adds 0.1 or 0.25 gm. potassium iodid to the suppositories. In connection with these measures to suppress the muscular activity he applies energetic local treatment to the urethra. He adds a few cases to show the details of and benefit from this technic. In this communication he refers especially to male patients, having reported last year the advantages of atropin in gonorrhea in women.

62. **General Anesthesia by Injection of Cocain Into a Vein.**—Ritter experimented on dogs and found that complete analgesia was induced by injection into a superficial vein of 10 c.c. of a 1 per cent. solution of cocain, or 5 c.c. of a 3 or 5 per cent. solution of the cocain in a 0.1 per cent. salt solution. The dogs lie quiet but alert, breathing normally, but insensible to the action even of the actual cautery applied to the penis, vagina, anus, tail, face, ear and lining of the mouth. There is no sign of pain and the dog wags his tail during these manipulations except when his tongue is seized with forceps. To this he objects, but not apparently because it is painful. The anesthesia lasts from fifteen to thirty minutes or more and none of the dogs showed any serious disturbances afterward. Only a few manifested any unpleasant by-effects, and these were all small dogs injected with unusually large doses. One dog reacted, however, always in the same way even to small doses. The disturbances noted were all of the same type; the animal becomes restless, tosses his head up and down in increasingly rapid tempo and, if placed on the floor, runs swiftly around in circles. This was kept up sometimes for fifteen minutes, after which the animal quieted down and was quiet and apparently normal by the end of the half hour or hour; actual convulsions were never observed with any dosage. None of the larger dogs showed any by-effects. The communication issues from Payr's clinic at Greifswald, but no clinical application of the method is reported, although the suggestion is made that this method might be applied possibly with "dammed circulation."

Correspondenz-Blatt für Schweizer Aerzte, Basle

September 15, XXXIX, No. 18, pp. 617-648

63 *Epidemic Cerebrospinal Meningitis at Zurich. (Beobachtungen bei den [illegible] Jahres 1908.) H. v. Wyss.
64 Pancreas [illegible] Importance of Changes in the Islands. Saltykow.

63. **Epidemic Meningitis in Zurich.**—Wyss relates the experiences at Zurich last year with 20 cases of epidemic cerebrospinal meningitis at the medical clinic. With one exception there was no known contact connection between the various cases which occurred in different quarters of the section, all between March and July. One case developed with a syndrome suggesting tuberculous meningitis and the patient was not taken to the hospital until after the third week, but no other case developed in the environment. The clinical picture varied with each individual. In one case a healthy young man was seized with stupor, stiff neck and furious delirium but no fever, and this condition persisted until death on the sixth day. In one case the stiffness of the neck and other symptoms ascribed at first to epidemic meningitis proved to be merely gonorrheal arthritis of the cervical vertebræ. The findings in the fundus of the eye were negative in all the cases, but lumbar puncture always confirmed the diagnosis suggested by the stiffness of the neck. If the spinal fluid is scanty and thick, the prognosis is grave beyond relief, as also when the fluid becomes exceptionally abundant as the disease subsides, showing that hydrocephalus is impending. The mortality in his cases was 50 per cent. and serious complications were observed in some of the others, such as total deafness in 2 cases, imbecility, decubitus and sepsis in 1, hydrocephalus in 2, phthisis bulbi in 1, and acute polyarthritis, or monarthritis in 1 and acute hemorrhagic nephritis in 2 cases, only one of the latter patients recovering. As the patients were seen so late in many instances his experience with serotherapy is not conclusive; it was applied in 15 cases with a mortality of 40 per cent.

Deutsche medizinische Wochenschrift, Berlin

September 16, XXXV, No. 37, pp. 1593-1640

65 *General Anesthesia. (Ueber Narkose.) M. Verworn.
66 *Nervous and Mental Disturbances in Arteriosclerosis. (Die nervösen und psychischen Störungen bei Arteriosclerose.) A. Cramer.
67 Conception of Neurasthenia. (Ueber den Neurastheniebegriff.) E. Jendrassik.
68 Cancer of the Liver. (Das maligne Adenom der Leber.) H. Ribbert.
69 Duodenal Ulcer and Its Treatment. (Ueber das Duodenalgeschwür und seine Behandlung.) M. Einhorn.
70 *Gastric Ulcer. (Ueber Pathogenese, Indikationsstellung und Therapie des runden Magengeschwürs.) E. Payr. Commenced in No. 36.
71 Two Cases of Gonorrheal Serpiginous Ulcer in Men. Xylander.

65. **General Anesthesia.**—Recent research has shown that the anesthetics most soluble in fats and lipoids and less in water have the most powerful effect, and Verworn's experiments sustain the hypothesis that the drug enters into chemical combination with the oxygen-bearing group of atoms and thus renders them incapable of carrying oxygen. By this blockade of these groups of atoms the clinical facts observed are fully explained. During the anesthesia, the processes of oxidation are known to be paralyzed, while retrograde metabolism goes on as in asphyxia, that is, exclusion of oxygen, under other circumstances. The retrograde metabolism may even be accelerated during the anesthesia, and the tissues suffering from lack of oxygen may lose their vitality beyond redemption. There is no justification for identifying the condition of general anesthesia with that of sleep. During sleep the oxidations proceed and restitution results; during general anesthesia the taking up of oxygen ceases while the destruction of the living substance continues. It is thus seen that general anesthesia is not a stationary condition. The longer the anesthesia, the more the tissues suffer from lack of oxygen until asphyxia is complete. The loss of conductibility of a nerve in general anesthesia is due to the reduction in the intensity of the stimulus passing through the anesthetized area. This reduction occurs more rapidly the deeper the anesthesia. In applying "vein anesthesia," according to Bier's technic for local blockade of the nerve by intravenous injection of the anesthetic, the dose can be proportionately smaller, the longer the stretch of nerve exposed to its influence.

66. **Nervous and Mental Disturbances in Arteriosclerosis.**—Cramer emphasizes anew the great importance of early differentiation of arteriosclerosis of the central nervous system, as proper treatment may arrest the trouble and ward off social and material loss. When headache occurs and persists, with occasional vertigo, the possibility of arteriosclerosis should be suggested. The dizziness in these cases is extreme and unless the patient can catch some support he may fall. It is important to exclude vertigo from an ear affection and from varieties of true nervous vertigo. When due to arteriosclerosis, the memory for recent events is liable to suffer. The patients lose the thread of their discourse, forget the number of their room in the hotel, figures and names; they get into the habit of noting down whatever they wish to remember. A tendency to facile emotions and irritability may also be observed, and to lasciviousness. The local symptoms may indicate a neuron affection; among these he has frequently encountered a slowness in speech, first noticed by stenographers, or the speech may be difficult and indistinct. Sluggishness in the pupil reaction to light is another important differential sign, as also a difference in the innervation of the face. The reflexes are generally increased, and there may be pains and paresthesia. All these symptoms may occur on a purely nervous basis, and the arteriosclerosis can be differentiated only by exclusion and by remembering that signs of an organic affection of the

nervous system do not accompany a purely nervous trouble. It is much wiser to assume arteriosclerosis in case of doubt, rather than neurasthenia, as treatment of the larger includes the less. The mental disturbances of arteriosclerosis may be grouped as those showing decay of the mental power, depression, or conditions of exaltation with paranoia as the acme. It is characteristic for the latter group that the process occurs with remissions, leaving tranquil intervals simulating recovery. In progressive paralysis the entire personality seems to be changed more than in arteriosclerosis. The Wassermann reaction of the spinal fluid testifies to progressive paralysis.

70. **Gastric Ulcer.**—Payr's extensive experience has shown that the indications vary widely in individual cases, especially in view of the general health, the location, the anatomic form and the stage of the process. Gastroenterostomy is reliable, he states, for ulcers and resulting stenosis in or close to the pylorus. Tumors in the lesser curvature and rear wall of the stomach indicate transverse resection of the middle part of the stomach, which is much more promising than excision. Gastroenterostomy he considers a good palliative operation in these conditions when the general health does not permit a more complete operation. Jejunostomy under local anesthesia is advisable only in severe inanition. The slightest suspicion of cancer justifies resection, and a family history of cancer should turn the scale when gastroenterostomy is being considered. Very important is a course of internal treatment, as for acute ulcer, following the operation. This logical demand is frequently disregarded; the surgeon dismisses the patient on recovery from the operation, and sees him no more. Many patients with recurring ulcer are then encountered which throw discredit on operative treatment. Nowhere is the necessity for cooperation between internist and surgeon so important as in treatment and after-treatment of gastric ulcer.

Medizinische Klinik, Berlin

September 12, V, No. 37, pp. 1377-1410

72 *Anatomic Changes in the Stomach with the Gastric Crises of Tabes. (Anatomische Magenveränderungen bei gastrischen Krisen der Tabischen.) H. Eichhorst.
73 Physico-chemical Behavior of Uric Acid and Its Salts in the Blood, and Influence of Radium. (Verhalten der Harnsäure und ihrer Salze im Blut.) F. Gudzent.
74 *Reacting Capacity After Hydriatic Stimuli as Guide to Prognosis. (Die Reactionsprüfung nach hydriatischen Reizen im Dienste der Prognosenstellung bei Puerperalfieber.) H. Sellheim.
75 Scrofula and Lymphocytosis. (Skrofulose und Lymphozytose.) E. Becker.
76 Treatment of Chronic Skin Disease. (Zur Behandlung chronischer Hauterkrankungen.) Dreuw.
77 Roentgen Treatment of Chronic Nephritis. (Mitteilungen aus der Praxis.) Lenné.
78 Internal Treatment of Gall-Stones. Id.
79 Dietetic Treatment of Diabetes. Id.
80 Viscosimeter. (Die Viskosimetrie des Blutes.) W. Hess.

72. **Anatomic Changes in the Stomach with Tabetic Gastric Crises.**—Eichhorst remarks that it is by no means uncommon to have the tabes overlooked and the patient treated for the stomach disturbances alone, and reports a case of this kind in which a locksmith of 47 had been under the care of twelve different physicians during five years on account of attacks of pain in the stomach and vomiting. No relief had been obtained from the ulcer cures and other treatment instituted, and the emaciation suggested cancer. When the patient came into Eichhorst's hands, he examined for the knee-jerk but was unable to elicit it, which at once differentiated the unsuspected tabes, confirmed by other findings and the course of the case. The gastric crises of tabes may be either of a neuralgic, hypermotor or secretory nature or these combined, and in three of his patients there was tetanic contraction. As the contraction subsided the pain vanished. In two other cases he examined the stomach post-mortem; the patients were tabetic women, about 48, who had been under supervision for two and five years respectively. Notwithstanding the long duration of the gastric crises, the stomach wall was found free from even microscopic changes in one and in the other there were merely diffuse atrophy of the stomach glands and isolated proliferation of round cells—an interstitial insular gastritis. This case suggests that the tendency to emaciation in the course of tabes may be due to the increasing atrophy of the stomach glands.

74. **Testing the Reacting Power for Prognosis of Puerperal Fever.**—Sellheim has found it possible to foretell the course of puerperal fever by the response to a simple hydriatic measure. At the first visit he takes the pulse, temperature and respiration, and then has a broad tepid compress applied to cover the abdomen completely. Just as he leaves he notes again the pulse, temperature and respiration. If the temperature shows any signs of declining, the pulse growing stronger and slower, the blood-pressure rising and the respiration a tendency to become slower and less shallow under this simple hydrotherapeutic measure, he regards the prognosis as favorable. If the functions are not influenced in this way there is little hope of recovery, as the defensive reactions are at too low an ebb. The reaction on the part of the pulse and respiration to this mild stimulus denotes the degree of intoxication of the vasomotor system. This reaction test, in combination with the expression, the complexion, the tongue and pulse, reveal the outlook for the moment, and repetition every day permits constant control of the disease. At the same time the measure is an aid in treatment of puerperal fever.

Münchener medizinische Wochenschrift

September 14, LVI, No. 37, pp. 1873-1928

81 Permeability of Kidneys for Bacteria. (Zur Frage der Durchgangigkeit der Niere für Bakterien.) F. Rolly.
82 Origin of Albumin in Urine of Children. (Herkunft des Harneiweisses bei Kindern.) R. Hecker.
83 The Cammidge Pancreatic Reaction. (Ueber die Brauchbarkeit der sogen "Pankreasreaktion" nach Cammidge.) O. Schumm and C. Hegler.
84 Nature and Cause of Serum Anaphylaxis. (Zur Frage der Serumüberempfindlichkeit.) H. Braun.
85 Electric Treatment of Inoperable Carcinoma. (Ueber Fulguration von inoperablen Karzinomen.) H. Schulz.
86 Cause and Cure of Laceration of Entire Perineum. (Zur Entstehung und Heilung kompletter Dammrisse.) H. Sellheim.
87 History and Ou[illegible]s. (Vor und zurück in der [illegible]lus.
88 Mechanical Treat[illegible] (Ueber eine zweckmässige Form der Behandlung der Kontraktur bei der tuberkulösen Hüftgelenksentzündung.) A. v. Lichtenberg.
89 Tuberculin in Diagnosis and Treatment of Urogenital Tuberculosis. W. Karo.
90 Ethyl Chlorid Refrigeration in Treatment of Warts. (Behandlung der Warzen mittels Kelenvereisung.) K. Büdinger.
91 *Syphilis Affecting the Muscles, Testes or Conjunctiva. (Zwei interessante Luesfälle und aus diesen Beobachtungen gezogene Schlüsse.) M. von Zeissl.

91. **Syphilis Affecting Muscles, Testes and Conjunctiva.**—One of the patients whose cases are reported presented severe myositis with orchitis, but electric tests of the muscles gave normal findings and under mercurial treatment all the disturbances vanished. In the other case the infection dated from a cut while being shaved; after various manifestations the syphilis entered a latent phase for a few months, but then severe conjunctivitis developed. It proved rebellious to mercurial and iodid general treatment, but promptly subsided when this was supplemented by local application of calomel. Previous local applications of other forms of mercury had not benefited; it is possible that the mercury accumulated in the organism first made itself felt at the moment of the application of the calomel. Zeissl has encountered in his practice forty-five cases of extragenital syphilis, including five in medical men, four of whom succumbed to cerebral manifestations, while the fifth recovered entirely after a period of right paralysis. In four other cases the primary manifestation was in the tonsils, and these cases were distinguished by violent headaches and exceptionally severe course.

Wiener klinische Wochenschrift, Vienna

September 16, XXII, No. 37, pp. 1257-1288

92 *Aims and Tasks of Social Medicine. (Die Aufgaben und Ziele der sozialen Medizin.) L. Teleky.
93 Epidemic of Poliomyelitis in Vienna, 1908-9. R. Neurath.
94 Frequent Occurrence of Long Bacillus in Urine in Bacteriuria and Cystitis. (Das häufige Vorkommen des Boas-Opplerschen Bazillus im Harne bei Bakteriurien und Zystitisfallen.) A. Rodella.

92. **Social Medicine.**—Teleky refers in particular to the medical aspect of the compulsory insurance of wage-earners against sickness and accident, and emphasizes the new task which it has imposed on the profession. The physician not only has to treat the patient but he has to deliver a certificate and report on the ultimate prospects in the case. The surgeon also has had to change his aim; instead of trying to restore normal anatomic conditions he now endeavors to secure the best possible functional and wage-earning capacity. Social medicine is the borderland between medicine and applied sociology.

Its task is to enable each one to profit by the progress of individual hygiene and clinical medicine, to train physicians for these new duties, and to study the transformation in the status of the profession under the influence of these tendencies. He adds that the young student hungers for knowledge of real life on his emancipation from the parental roof, and in no other way can he obtain such an insight into real life than in studying, not only the sick, but the well, from this standpoint of social medicine, how people live, how they labor, and how they become diseased by their mode of life or their occupation.

Zentralblatt für Chirurgie, Leipsic

September 18, XXXVI, No. 38, pp. 1313-1344

95 *Dislocation of the Pelvis in Coasting Accidents. (Ueber schwere Beckenluxationen und Verletzungen der umgebenden Weichteile: Typische Rodelverletzungen.) A. Fischer.

95. Dislocation of the Pelvis in Coasting Accidents.—Fischer relates the details of an accident to a bob-sled on which six young men were coasting, seated in a row, the legs of each projecting beyond the fellow seated in front of him. As the sled ran into a tree, the impact of the pelvis of each against the sacrum of the man in front caused separation and dislocation of each of the articulations of the pelvis, with injury of the soft parts. The disturbances of this nature were the more severe the nearer the man to the front of the sled, except that the front man escaped this, but was killed by the concussion against the tree. Two others also succumbed to their injuries. Fischer obtained an unusual opportunity for autopsy of the different degrees of this typical coasting accident injury in these fatalities.

Zentralblatt für Gynäkologie, Leipsic

September 18, XXXIII, No. 38, pp. 1313-1352

96 Placental Theory of Origin of Eclampsia. Lichtenstein.
97 *Treatment of Eclampsia. (Zur Behandlung der Eklampsie.) Uthmöller.
98 Modification of Hysterectomy Technic. (Zu dem Vorschlage Zweifel's "Ein neues Verfahren zur Exstirpation des Uteruskarzinoms.") C. Lauenstein.
99 *Plastic Operations on Abdomen. (Bauchdeckenplastik.) Weinhold.

97. Treatment of Eclampsia.—Uthmöller reports success in the treatment of severe eclampsia in two cases by evacuating the toxins by extensive venesection. This not only helps to eliminate the toxins but relieves the pressure on the circulation and, last but not least, weakens the body until it is unable to react to the eclampsia toxins with the convulsions. He withdrew 1,250 c.c. of blood in one case and about 900 c.c. in the other, applying no other treatment.

99. Plastic Operations on the Abdominal Wall.—Weinhold declares that too little attention is paid to improving the appearance of the abdomen when a laparotomy is necessary for any cause. It is not enough to restore previous conditions; the shape of the abdomen should be improved if needed. He describes several cases to show the advantages of doing this. In one case he removed 11½ pounds of skin and fat restoring the large pendulous abdomen to normal outlines. After a plastic operation of this kind he orders a stout bandage worn for a year, after which it is no longer necessary. Six illustrations of the technic followed accompany the article.

Gazzetta degli Ospedali e delle Cliniche, Milan

September 7, XXX, No. 107, pp. 1129-1136

100 Toxic, Hemolytic and Sensitizing Properties of Fluid in Blisters. (Potere tossico, emolitico e sensibilizzante del liquido delle bolle di pemfigo.) G. Burzi.

September 9, No. 108, pp. 1137-1144

101 Principles of Hospital Management. (Degli studi e delle condizioni per il miglior ordinamento degli ospedali.) L. Baldassari.

September 12, No. 109, pp. 1145-1160

102 Influence of Emotions on Mother's Milk. (Influenza dell'emozioni sulla secrezione lattea.) G. Benassi.

September 14, No. 110, pp. 1161-1168

103 *Epilepsy with Apoplectiform Symptoms Benefited by Organotherapy. (Un caso di epilessia con fenomenologia apoplettiforme trattato colla terapia organica: Neuroprina e Cefalopina.) G. Trevisanello.

September 16, No. 111, pp. 1169-1176

104 *Serous Meningitis. A. Rossi.

September 19, No. 112, pp. 1177-1190

105 *Serotherapy of Erysipelas. (Ricerche sperimentali e considerazioni intorno al probabile meccanismo d'azione del siero Behring nella cura dell'eresipela.) G. Migliacci.

103. Epilepsy with Apoplectiform Symptoms Benefited by Organotherapy.—Trevisanello reports a case interesting from the prolonged and varied syndrome presented by the patient, a man of 31, who was under observation for a number of years, and from the apparently complete cure under treatment with nerve and brain extract, the cure persisting two years to date. The symptoms indicated a combination of hysteroneurasthenia, cerebral endoarteritis, epilepsy with apoplectiform manifestations, cerebral hemorrhage and consecutive hemiplegia.

104. Serous Meningitis.—Rossi reports 3 cases in patients of 20 and 28, including two men, one of whom succumbed to the disease. This patient was taken to the hospital practically moribund, the symptoms suggesting tuberculous meningitis. But the sudden onset of the symptoms less than a month before, with fever, excluded the tuberculous form, and lumbar puncture gave a limpid sterile fluid under high pressure. Blindness came on early, the early development of choked disc being another element in the clinical picture which testified to almost immediate diffuse and uniform increase in the endocranial tension, such as is observed otherwise only with acute hydrocephalus. In the woman, the first symptoms of the serous meningitis appeared in the third week of typhoid, but subsided in six days. In all the cases there was a basis of inflammation for the effusion, the condition blending into that of "meningism" without distinct demarcation. The fluid is always serous in this form, although possibly containing slight amounts of fibrin.

105. Diphtheria Antitoxin in Erysipelas.—Migliacci analyzes the various reports that have been published on this subject and describes his own experimental and laboratory research to explain the benefit observed from the antitoxin in the clinic. He found that the antitoxin induced pronounced leucocytosis in the animals, involving chiefly the polynuclears. The findings indicate that phagocytosis is a secondary phenomenon due to the presence of certain substances in the blood serum, the opsonins, which he believes to be a secretion of the leucocytes, not a product of their disintegration. Injection of diphtheria antitoxin seems to favor the production of these substances and thus to promote phagocytosis—its action reenforced by its power to induce leucocytosis. The benefit from the antitoxin was marked in his three clinical cases, as also in a number that have been reported by Italian writers in addition to Babes, Cantu and some Russian writers.

Policlinico, Rome

September 12, XVI, No. 37, pp. 1157-1188

106 Certain Forms of Anemia in School Children. (Alcune forme d'anemie infantili in rapporto all'igiene della scuola.) V. Giudiceandrea. Commenced in No. 36.

September 19, No. 38, pp. 1189-1220

107 *Transplantation of Vasa Deferentia into Anterior Urethra. (Deferento-uretrostomia. Indicazioni.) A. Boari.

September, XVI, Medical Section, No. 9, pp. 381-428

108 *Iced Liver. (Sulla così detta forma di fegato candito di Curschmann.) L. Gazzoti.
109 *Changes in Spleen with Cirrhosis of the Liver. (Alterazioni anatomo-patologiche della milza nella cirrosi epatica.) G. Egidi.
110 Nitrogen Metabolism in Lead Poisoning. (Ricambio azotato nel saturnismo.) L. Preti.
111 Resistance of Red Corpuscles in Malta Fever. (Resistenza dei globuli rossi nella febbre di Malta.) A. Tomaselli.
112 Behavior of Nitrogen and Iron in Two Cases of Ankylostomiasis. (Sul comportamento del gruppo azotato e del ferro in due casi di anchilostomiasi.) P. Petrarca.

107. Transplantation of Vasa Deferentia into Urethra.—Boari gives an illustrated description of an operation which supplies an outlet for the spermatic fluid after perineal prostatectomy in tuberculous affections of the prostate and bladder, and in traumatic injury of the vasa or organic impotency from atresia of the ejaculatory ducts. His experiments on large dogs confirmed the practicability of the operation, which he then performed with success on a man of 60 requiring perineal prostatectomy for hypertrophied prostate. The vasa are severed through an incision 4 or 5 cm. long on the scrotal raphe, as high up as possible, and the peripheral stumps are sutured together, bringing them together like the barrels of a gun. Thus sutured, they are brought into the anterior urethra through a transverse incision and fastened in place.

108. Iced Liver of Traumatic Origin.—In the case reported by Gazzotti, a man of 51 had been kicked in the right iliac fossa by a horse. The injury was followed by high fever and daily chills for two weeks. After this he felt better, but suffered from intense thirst, irregular bowel functioning and abdominal pain, which commenced in the linea alba but spread throughout the abdomen, which became enlarged. The amount of urine decreased and edema and ascites developed. The patient soon succumbed to the progress of the diffuse traumatic peritonitis. He had been previously healthy except for smallpox and malaria before the age of 20 and influenza at 28. Autopsy revealed a typical iced liver only half the normal size, and the various steps of the process could be readily traced.

109. Changes in the Spleen with Cirrhosis of the Liver.—Egidi concludes from research on this subject that the changes observed in the spleen with cirrhosis of the liver should not be confounded with the changes and enlargement of the spleen from chronic congestion. It seems to be evident that the cause inducing the lesions in the liver acts on the spleen in much the same way. It is absurd to assume that the entire syndrome of cirrhosis of the liver is due exclusively to this organ, or to mechanical congestion in other organs. Changes are found in other organs which are beyond the influence of congestion from this cause, such as the transformation of the yellow bone marrow into red marrow, which has been cited as an argument in favor of the assumption that cirrhosis of the liver is primarily an affection of the blood. In conclusion he tabulates the details of the twenty cases on which his communication is based.

Riforma Medica, Naples

September 13, XXV, No. 37, pp. 1009-1036

113 Paratyphoid Infection. (Sulle febbri e febbricole setticemiche polimorfe. VI.) G. Rummo.
114 Loss of Passive Immunity to Diphtheria in Consequence of Development of Anaphylaxis. (Perdita della immunita passiva antidifterica in seguito alla malattia da siero.) C. Francioni.
115 Blood Reaction in Diagnosis of Hidden Suppuration. (La reazione ematologica di Cesaris Demel nella diagnosi delle suppurazioni nacoste.) G. Finzi.

September 20, No. 38, pp. 1037-1064

116 Malta Fever. (Sulle febbri e febbricole setticemiche polimorfe. VII.) G. Rummo.
117 *Test of Pancreas Functioning. (Nuovo metodo per determinare la funzionalita pancreatica.) A. Fedeli and G. Romanelli.
118 Endoscopy of Mouth of Ureter. (La meatoscopia a visione diretta. Suo valore diagnostico nelle lesioni ureterorenali.) A. Boari.

117. Reactivation of Saliva as Test of Pancreas Functioning.—Romanelli has applied for this purpose the discovery of Roger and Simon that saliva, inhibited in its special activity by the gastric juice, recovered its specific properties when transferred to an alkaline medium and a little unmodified saliva or pancreatic juice added. The findings with this test applied to the feces were always confirmed by the ordinary reliable tests of pancreas functioning. The test is not only qualitative, but also gives a quantitative estimate of the proportion of pancreatic juice present. The test is made with 1 c.c. of the individual's saliva mixed with 5 c.c. of gastric juice or an equal amount of a 2.5 per cent. solution of hydrochloric acid. After thorough mixing and an interval of rest of about half an hour, he adds 4 c.c. of a 1 per cent. solution of sodium carbonate to render the mixture slightly alkaline, and then he adds 20 c.c. of a 10 per cent. starch paste. The whole is then kept in the incubator for two hours, at a temperature of 37 C., shaking up the mixture at intervals. It is then examined for the proportion of sugar that has been produced, and then 10 c.c. of an emulsion of fresh feces (1 part stool to 3 parts distilled water) are added to the mixture, which is then replaced in the incubator, shaking it up occasionally. After twelve hours the qualitative and quantitative determination of the sugar that has been produced testifies to the intensity of the pancreatic functioning. The variation in the findings in regard to starch digestion in the first and second examinations give an oversight of the conditions in respect to the saliva and pancreas functioning when compared with the findings in health.

Ugeskrift for Læger, Copenhagen

September 9, LXXI, No. 36, pp. 999-1020

of Trigeminal Neuralgia. T. Levison.

119. Treatment of Trigeminal Neuralgia.—Levison discusses the various methods of treating the malignant form of trigeminal neuralgia, which is rebellious to the salicylates. The pain does not radiate as in the mild form, and there is no local tenderness. It is liable to be brought on by movement of the face muscles, laughing, sneezing, etc., and in order to avoid this the patient is inclined to hold his features still, which imparts a characteristic expression. Levison ranks aconite highest after the salicylates in drug treatment and has had good results in some patients with this type of neuralgia; they took from one to four pills of aconite three times a day. In four the neuralgia was over ten and in the others from one to three years' standing. In three cases the effect of the aconite was marked; another patient was benefited more by potassium iodid. Levison refers in particular to Vitek's method of treating the neuralgia with a weak electric current, with one anode in the mouth to act on the second and third branches, the other under the upper eyelid to act on the first. In some of Levison's patients the neuralgia had returned after Gasserectomy. Deep injections of alcohol offer the best prospects in treatment of neuralgia rebellious to drugs and physical measures, he is convinced.

Norsk Magazin for Lægevidenskaben, Christiania

September, LXX, No. 9, pp. 769-912

120 13 Vaginal Cesarean Sections. (13 vaginale, konservative keisersnit.) K. Brandt.
121 Paratyphoid. (Om paratyfusinfektioner.) O. Scheel.
122 Sclerectomy in Glaucoma. (Sklerektomi med trepansaks i glaukom. Irisfrit fistelar.) S. Holth.

Books Received

All books received are acknowledged in this column and such acknowledgement must be considered as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Chemical Tests for Blood. By J. H. Kastle. Hygienic Laboratory Bull. No. 51. Paper. Pp. 62. Washington: Government Printing Office, 1909.

Adrenalin and Adrenalin-Like Bodies. By W. H. Schultz. Hygienic Laboratory Bull. No. 55. Paper. Pp. 77. Washington: Government Printing Office, 1909.

A Manual of Natural Therapy. By Thomas D. Luke, M.D., F.R.C.S., Physician at the Peebles Hydropathic. Cloth. Pp. 295, with 125 illustrations. Price, $2.50. New York: William Wood & Co.

A System of Operative Surgery. By Various Authors. Edited by F. F. Burghard, M.S., F.R.C.S., Teacher of Operative Surgery in King's College, London. In Four Volumes. Vol. II. Cloth. Pp. 710, with illustrations. Price, per volume, $10. New York: Oxford University Press, 1909.

Lehrbuch der Ernährung und der Stoffwechselkrankheiten für Aerzte und Studierende. Von Professor Dr. F. Umber, Aerztlichem Direktor am Städtischen Krankenhause in Altona. Paper. Pp. 394, with illustrations. Price, 12.50 marks. Berlin: Urban & Schwarzenberg, 1909.

Lehrbuch der topographischen Anatomie für Studierende und Aerzte. Von Dr. H. K. Corning, Professor E. O. und Prosektor an der Universität Basel. Second Edition. Cloth. Pp. 767, with 653 illustrations, 424 in colors. Price, 16.60 marks. Wiesbaden: Verlag von J. F. Bergmann, 1909.

Selected Papers on Hysteria and Other Psychoneuroses. By Prof. Sigmund Freud, Vienna. Authorized Translation by A. A. Brill, Ph.D., M.D., Chief of Nervous Dispensary, Beth Israel Hospital. Paper. Pp. 200. New York: The Journal of Nervous and Mental Disease Publishing Co., 1909.

Elements of Orthodontia. A Laboratory Note-Book for Students and Beginners. By B. E. Lischer, D.M.D., Professor of Orthodontia, Washington University Dental School. Cloth. Pp. 95, with illustrations. Price, $1. St. Louis: The C. V. Mosby Co., 1909.

Contributions to the Study of Rectal Disease. By F. Victor Milward, B.A., M.B., B.C., F.R.C.S., Assistant Surgeon to the General Hospital, Birmingham. Cloth. Pp. 92, with illustrations. Price, 2 shillings. Birmingham, England: Cornish Brothers, 1909.

Diseases of the Nose, Throat and Ear. By Charles Huntoon Knight, A.M., M.D., Professor of Laryngology, Cornell University Medical College, and W. Sohier Bryant, A.M., M.D., Consulting Otologist, Manhattan State Hospital. Second Edition. Cloth. Pp. 609, with 239 illustrations. Price, $4.50 net. Philadelphia: P. Blakiston's Son & Co., 1909.

The Practical Medicine Series. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. VII, Pediatrics, Edited by Isaac A. Abt, M.D., Assistant Professor of Medicine (Pediatrics Department), Rush Medical College, with the Collaboration of May Michael, M.D. Orthopedic Surgery, Edited by John Ridlon, A.M., M.D., Professor of Orthopedic Surgery, Northwestern University Medical School, with the Collaboration of A. Steindler, M.D. Cloth. Pp. 234. Price, $1.25. Chicago: The Year Book Publishers.

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Original Articles

THE PRESENT STATUS OF THE SERUM THERAPY OF EPIDEMIC CEREBROSPINAL MENINGITIS *

SIMON FLEXNER, M.D.
NEW YORK

My intention is to present a very brief statement of the status of the serum treatment of epidemic meningitis. It is now about three years since the serum was first used therapeutically in this country. Gradually its employment has extended until now it is being used in Great Britain, France and Germany, as well as in the United States and Canada. Indeed, the Rockefeller Institute has sent supplies to India and to Jerusalem, but, as no reports have been received from these distant places, they will not be further considered at present.

At the time of the first employment of the serum in this country the epidemic of meningitis had already receded in the East, and, although the disease spread westward even beyond the Rocky Mountains and was often very severe and fatal, yet the number of cases arising or being recognized in any one community was not large. I, therefore, view the test made of the serum in America as having coincided with the period of recession of the epidemic.

At the period of the first employment of our serum in Belfast and Edinburgh the epidemic was at its height; that is to say, it had reached its maximum development, from which it was tending to recede rather than to extend. All the evidence at hand shows that the disease at that time had not diminished in virulence and fatality, but the number of cases appearing was in a given time less than before.

In Germany, also, the epidemic was virtually at an end when the serum was received. In France, on the other hand, the serum was available at the beginning of the outbreak of the epidemic which is now prevailing in Paris and the provinces. To the fortunate circumstance that Professor Calmette, on his return from the International Congress on Tuberculosis, carried with him to Lille a considerable quantity of the serum is to be ascribed its prompt employment. Subsequently the Rockefeller Institute sent large supplies to him, to Professor Netter and to Professor Roux. The reports of the serum treatment now appearing in French medical journals are based chiefly on the employment of the serum prepared at the Rockefeller Institute.

If, therefore, the decision of the value of the serum treatment was properly withheld until the opportunity arose to subject it to a test at the beginning of a severe epidemic, when the fatality is commonly at its height, this opportunity has now arrived in France. The outlook is further promising for a comparative study of cases of epidemic meningitis treated with the serum and in other ways. While the serum is being employed widely, apparently, in Paris and in the intense way that experience has indicated to be the best, namely, by successive injections of relatively large doses, in the provinces it is being less generally employed and it has been found difficult to have the intense method carried out by the provincial practitioners. When the reports are all in and the figures have been collected we may expect, therefore, valuable information on the value of the serum.

In the meantime, I can report to you that the excellent results obtained from the serum in America and Great Britain are being repeated in France. There have already been published reports covering 100 or more cases of the disease treated with the serum in which the mortality will probably be less than 25 per cent. On the other hand, a smaller number of cases thus far reported treated by other methods have given a far greater mortality and one approaching 80 per cent. Moreover, the phenomena of diminution in severity of the symptoms and reduction of the period of infection and convalescence have been observed there as elsewhere.

We may, then, consider fairly, I think, that the serum treatment has now been subjected to test under a variety of conditions, some of which were as severe as probably ever occur. And yet I should still advise caution in concluding that the case has been proved for the serum. The total number of reports of cases of epidemic meningitis treated with the serum prepared at the Rockefeller Institute which I have collected is under one thousand, and it obviously will take a larger number than that to establish its value. I wish now to present a tabulation which has recently been prepared based on 712 cases of the disease in which the bacteriologic diagnosis was made and the serum treatment used. In the first table the cases are subdivided according to certain age periods, and in the second the total cases of each age period are further subdivided according as the serum was injected in the three arbitrarily chosen periods of duration of the disease.

TABLE 1.—CASES OF EPIDEMIC CEREBROSPINAL MENINGITIS TREATED WITH THE ANTIMENINGITIS SERUM

CASES ANALYZED ACCORDING TO AGE GROUPS

Age years.	Total no. cases.	Recovered.	Died.	% Mortality.
1-2	104	60	44	42.3
2-5	112	82	30	26.7
5-10	113	95	18	15.9
10-15	101	73	28	27.7
15-20	107	72	35	32.7
20+	175	106	69	39.4
Total, all ages	712	488	224	31.4

Table 1 brings out several points of interest. The highest mortality is shown to have occurred in the first

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

two years of life. But contrary to the rule under the older forms of treatment in which the mortality was 90 per cent., or over, in this series it was 42.3 per cent. The second age period is from 2 to 5 years, in which the mortality was 26.7 per cent. The third age period embraces children from 5 to 10 years of age and gave the lowest mortality of all, namely, 15.9 per cent. The next period extends from 10 to 15 years and gave a mortality of 27.7 per cent. The next period of from 15 to 20 years showed a considerable rise in mortality, equaling 32.7 per cent., and the last period, embracing the cases of 20 years and over, gave a mortality of 39.4 per cent. The average mortality in all the age periods was 31.4 per cent.

The time allowed me is insufficient to enable me to enter into a detailed discussion of the figures. It is my intention, however, to consider them in some detail in the near future. A point of importance and one to which Dr. Jobling and I have already referred is the importance of experience with the serum in securing the best results from it. If the separate large series of cases treated by individual observers are analyzed, the great discrepancy in the results as between children over 2 years of age, young adults and adults past 20 years are not encountered.

TABLE 2.—CASES OF EPIDEMIC CEREBROSPINAL MENINGITIS TREATED WITH THE ANTIMENINGITIS SERUM

CASES ANALYZED ACCORDING TO DAY OF INJECTION

	Period of Injection—Day.								
	1st-3rd			4th-7th			Later than 7th		
Ages. Yrs.	Rec.	Died.	%	Rec.	Died.	%	Rec.	Died.	%
1-2	16	1	5.8	22	10	31.2	22	33	60.
2-5	24	6	20.	40	12	23.	18	12	40.
5-10	43	8	15.6	35	6	14.6	17	4	19.
10-15	36	8	19.	23	9	28.1	14	11	40.
15-20	25	17	40.4	25	8	24.2	22	10	31.2
20+	36	21	36.8	34	24	41.3	36	24	40.
Totals..	180	61	25.3	179	69	27.8	129	94	42.1

Table 2 is instructive in bringing out the importance of early injections of the serum. The results in the first two years of life are especially noteworthy. The extraordinary figures given under the first period of injection, namely, in the first three days of the disease, can hardly be maintained. But the influence of period of injection is shown by the rapid rise in mortality in the subsequent two periods. The rule of the effects of early injection is preserved in the age periods up to the period of from 15 to 20 years, when it disappears. The discrepancy occurring in the two highest age periods cannot be wholly accounted for at present. The explanations which suggest themselves are that among older individuals there tends to be a large number of very severe, rapidly fatal or fulminating cases of the disease, or that older persons are less subject to the beneficial action of the serum. As regards the actual proposition, it may be stated that adults not infrequently respond promptly to the serum injections by abrupt termination of the disease or ameliorated symptoms and pathologic conditions.

The total figures do not, however, fail to indicate that the early injections are more effective than the later ones, as is shown by the percentage mortality in the first-to-third-day period of 25.3, in the fourth-to-seventh-day period of 27.8, and the period later than the seventh day of 42.1.

There is one consideration which I should like to touch on. The study of certain groups of cases of epidemic meningitis, coming under one observer, indicates that the diagnosis can sometimes be made before the usual symptoms of meningeal irritation appear or are recognizable. The cerebrospinal fluid removed by exploratory lumbar puncture has been, in these cases, sometimes clear and sometimes turbid and contained more or less polynuclear leucocytes and always *Diplococcus intracellularis*. The serum being injected immediately, these cases almost invariably were abruptly terminated or ran relatively a mild course. Attention having been drawn to the cases as being possibly examples of epidemic meningitis because of the similarity of the prodromal symptoms to those of other cases diagnosed later after the signs of meningeal irritation were plain, they ran a short and mild course after the early administration of the serum, while the others, which served to direct the attention, having been injected later when the infection and inflammation were well established, assumed a far more severe and protracted form.

Rockefeller Institute for Medical Research.

ABSTRACT OF DISCUSSION

Dr. Thomas Morgan Rotch, Boston: In my wards at the Children's Hospital during the last ten years, I have had on an average twenty of these cases each year. The children treated were in the first twelve years of life and I have carried out a different form of treatment during each of the past six years. During 1899, 1900, 1901 and 1902 no special treatment was employed and the mortality varied from 60 to 80 per cent. During 1903, 1904 and 1905 the treatment was by repeated lumbar punctures and the mortality continued from 60 to over 70 per cent. Although the lumbar punctures produced no notable change in the percentage of deaths yet a certain temporary amelioration was noticed at times. During 1906, all the children were treated with diphtheria antitoxin, the doses varying from 115,000 to 144,000 units according to the age of the child. An analysis of these cases showed no especially favorable results, the mortality being about 80 per cent. During 1907, in connection with my work on the opsonic index the treatment was with the vaccines and the mortality still remained up to about 80 per cent. In all the nine years from 1899 to 1907 the mortality varied from 60 to 80 per cent.

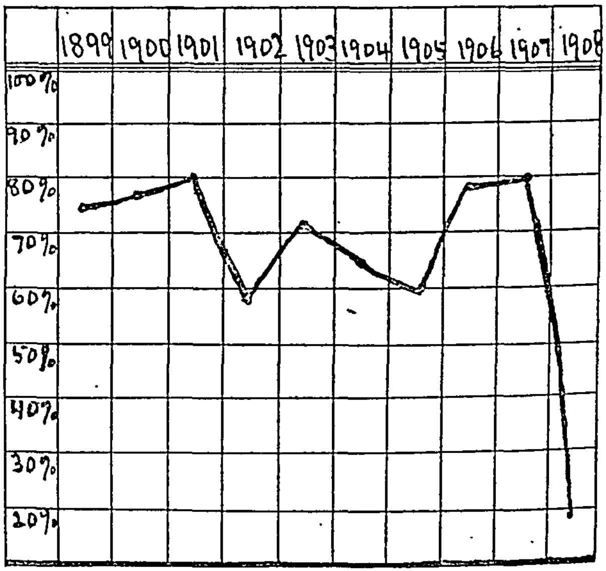

Chart showing death rate from epidemic cerebrospinal meningitis at the Children's Hospital, Boston, from 1899 to 1908.

From Nov. 1, 1907, to Nov. 1, 1908, the Flexner serum was employed and the mortality immediately fell from 80 to 19 per cent. This lower rate of mortality has varied a little since Nov. 1, 1908, but has never gone above 25 per cent.

The technic of the serum treatment in these 74 cases has been carried out by Dr. Charles Hunter Dunn. The amount of serum given varied according to the case but from 30 to 45 c.c. at a dose was found to be safe, given daily for at least four days. It is seldom that too much serum is given. In one patient, a small baby, symptoms of cyanosis, irregular respiration and collapse occurred but the symptoms soon passed off and in the Dunn series only one other child was affected and this not seriously.

The mistake which is most likely to be made is the giving of too little rather than too much. It is also a mistake to stop repeating the dose until grave symptoms return. The serum should be repeated at least once a day and in grave cases oftener until not only all symptoms have disappeared, but until the organisms are no longer found in the spinal fluid. Reports as to the results do not give a fair idea of the value of the serum treatment unless the technic is carried out in the most perfected way. In this series of 74 cases the technic was carried out with the greatest precision with the method approved by Flexner.

The serum treatment should not be mistrusted or given up because certain patients do not respond to it. There are two reasons why some individuals do not respond to the serum: 1. Because in some cases it is probable that the serum can not reach certain parts of the brain infected. For instance, if by the inflammatory process brought about by the disease the foramen of Magendie has been closed the organisms may still be active while enclosed in the ventricles where the serum can not reach them or in like manner perhaps in some remote cerebral sulcus. 2. It has not been proved that there are not a number of strains of *Diplococcus intracellularis,* some of which may be resistant to the serum.

In those cases in which an individual does not respond to the serum, cultures from the spinal fluid should at once be sent to the Rockefeller Institute in order that Dr. Flexner should be enabled to investigate this possibility and perhaps later be able to increase the polyvalent property of the serum by including them in immunizing his horses. Analogous to these characteristics of the *Diplococcus intracellularis* is the well-known efficiency of certain strains of the lactic acid bacillus and the uselessness of others on certain fermental saprophytes in the intestine. The truth of these observations has been exemplified in Dunn's clinical work.

Dr. Philip King Brown, San Francisco: Dr. Rotch's statement regarding the care of these patients in hospitals makes me wish to report a brief experience with the treatment of these cases in country towns in California where the disease seems to be endemic. It appears in epidemic form occasionally in small isolated communities. I wish especially to speak of this because of the remarkable results obtained in the use of the serum by the country practitioners and they should be given the credit of the work. I can not allow this opportunity to pass without speaking of it because of its bearing on the general use of the serum which I believe is bound to come. In all but one group of cases the serum was administered by the physician to whom I gave it, after I had made the initial injection. The most striking results occurred in one small town where eleven patients died before the serum was used. Then in a twelfth doubtful case the child recovered. The deaths occurred in periods of from five hours to four days after the onset of the initial symptoms. After the introduction of the serum, three patients promptly recovered. The fourth case died because the supply of serum gave out. A fifth patient from a distant place, ill two weeks before the serum was tried, recovered after the use of a number of doses of the serum. In a number of localities where I have gone to administer the first dose of the serum, I left a supply to be used by the local physician in the further care of patients and in subsequent cases that might arise. The best results obtained in California were obtained by the country doctors. In one late case the patient was deaf and nearly blind when the serum was begun; the sight returned to normal, but the hearing was not recovered. In another case the patient was almost blind before the use of the serum, but the sight was subsequently regained. Strange to say, the results in San Francisco were not so good as in the country towns. I did the work myself and did the best I knew how, but still I was not able to obtain the results obtained by the men in the country. Generally speaking, this seems to have been due to the late use of the serum, to complications and to the very bad hygienic surroundings in the homes of several of the patients. In no case, however, did I have to contend with the difficulties and disadvantages hygienically and as regards assistance in carrying out the treatment that attended all the cases I saw in the country towns and still my results were not as good as the country physicians'.

Dr. William Litterer, *Nashville, Tenn.*: There has just been an epidemic of cerebrospinal meningitis in Nashville. The number of cases was 20, which was confirmed by bacteriologic examinations. Dr. Flexner kindly furnished us all the serum that we needed. In the first three cases in which the serum was not used, the patients died promptly. Out of the seventeen remaining patients in whom the serum was used, only 7 died; 3 of those who died were practically moribund when the serum was injected. The serum acted like magic on 2 moribund patients. Leaving out the moribund patients, 4 out of the 14 died.

We were particularly struck with two cases in which the *meningococci* were found in fairly large numbers in the fluid. After the first injection of the serum the number had decreased materially and by the third injection cultures were absolutely negative and the spinal fluid perfectly clear, yet the patients complained of agonizing headaches which were the chief feature of these cases. One of the patients died on the eighth and the other on the sixth day of the disease. I am of the opinion that the meningococci had extended into the ventricles of the brain and that the serum could not reach them. I am further of the belief that possibly we could have saved the patients had we injected the serum into the ventricles of the brain.

Dr. Simon Flexner, *New York*: There are two symptoms which are likely to persist after the disease has entirely yielded to the treatment, namely, rigidity of the neck and the Kernig sign. Other things being favorable, they can be disregarded, and may persist even for several weeks, and gradually disappear. A second point I should like to refer to is that apparently certain strains of the diplococcus are more resistant to the destructive and inhibiting influence of the serum already mentioned. How to explain this I do not know. I had intended to collect some of these strains for a special study, but have had little success in securing them thus far. The cases have occurred often in distant and widely separated places, so that the cultures of the resistant diplococci have not survived the journey by mail to New York, and so far I have not succeeded in securing such resistant strains in New York. I trust to pursue this investigation in the future.

I am confident that the inflammatory exudate is sometimes formed in inaccessible parts of the meninges, or in deeper parts of the brain where the serum can not reach. Then in cases of hydrocephalus the obstruction at the base of the brain often prevents the serum from reaching the cerebral meninges and ventricles, where the exudate is contained. Cushing of Baltimore first carried out intraventricular injection of the serum in children in whom this obstruction existed, after trephining the skull; and in young children it is possible to make the injection through the anterior fontanelle, but up to the present time in no case of this kind, so far as I know, has the patient recovered. Whether better results will be obtained later can not of course be predicted, but in any event I think the operation justifiable, since these cases always terminate fatally.

Finally, I wish to express my deep sense of indebtedness to the large number of physicians, many of whom I have never met, for their hearty cooperation, which I appreciate very much, and without which this wide investigation could not have been made.

Fly Poison.—Formalin, used as a poison for flies, needs to be swallowed by the insect, hence the flies must be attracted to the poison by mixing with it an appetizing food and by spreading the mixture over a large surface. Honey has given poor results. The *Scientific American* says the best mixture is made with milk. It recommends a solution containing 15 per cent. of the formalin of commerce, 20 per cent. of milk, and 65 per cent. of water, placed in large flat vessels. Most of the dead flies fall, not within the vessels, but around them, sometimes at a great distance.

INDICANURIA AND ITS SIGNIFICANCE *

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Indicanuria is the presence in the urine of a perceptible quantity, more than a mere trace, of the indoxyl sulphate of potassium, of which the chemical formula is $C_8H_6NKSO_4$. It is derived from anaerobic bacterial putrefaction of proteids.

Indol is first produced, and, at the time of absorption, is converted into a soluble indoxyl, which, in the juices of the body, unites with a base, usually potassium, and is excreted in the urine as indoxyl sulphate of potassium. Normally, from 5 mg. to 20 mg. of this substance are excreted daily; abnormally, from 50 mg. to 150 mg.

Numerous tests, most of which I have examined, have been offered for the determination of the presence of indican. The solution of the neutral or basic subacetate of lead, commonly employed to clear the urine, is not without disadvantage. Sometimes it removes a portion of the indican; occasionally it renders the detection easy. As an oxidizing agent a 1 per cent. solution of potassium chlorate is to be preferred to the solution of chlorinated soda, because of the instability of the latter.

The test for indican which is advised is as follows:

To 10 c.c. of filtered urine add one drop of a 1 per cent. solution of potassium chlorate; then add 5 c.c. of chloroform, and lastly 10 c.c. of pure hydrochloric acid of a specific gravity of 1.19. Thorough mixing is obtained by repeatedly and slowly pouring from one test-tube to another. The indigo thus set free is dissolved in the chloroform, to which is imparted a blue color. The maximum coloration is secured in ten minutes. When large amounts of indican are present, more potassium chlorate will be required.

Clinically, a quantitative idea of the amount of indican present may be obtained by noting the depth of the blue color of the chloroform. Salkowski, Strauss and others have devised methods by which the quantity of indican may be estimated, but most clinicians employ the qualitative method. The presence of a faint bluish discoloration of the chloroform may be viewed as normal or as possessing no importance. If the urine contains iodid the chloroform will be colored violet, which color may be removed by adding three drops of a 5 per cent. solution of sodium thiosulphate. Certain observers have noted that indican is usually absent in normal children under five years of age. Indican may be constantly present in large, moderate or small quantities, or only occasionally present during certain hours of the day or certain days of the week or month. In order, therefore, that the presence of indicanuria be not overlooked it is necessary to obtain urine for examination at different times during the day or week, or under conditions produced by variations in food, exercise, or during the presence of one of the most marked symptoms of this affection, as for example, headache. Indican is often detected in the urine passed after supper (care being taken to instruct the patient to empty the bladder before beginning the meal) and may be absent at all other times. Occasionally it may be necessary to modify the articles of food composing the supper, so as to make it a test meal. The urine first passed on arising and retiring, as well as that taken from a twenty-four-hour specimen, should always be examined. Sometimes indican is observed only after the ingestion of certain articles of food, or combinations of food, which may be indigestible, unsuitable or in excess. It must always be remembered that, owing to an idiosyncrasy, certain patients suffer acute indigestion with marked toxic symptoms, when they partake of certain foods or combination of foods which may for others be digestible.

Clinically, indicanuria may be mild or severe, acute, chronic, or recurrent, and occurs as an independent affection or as a complication of other diseases. The severe forms of intestinal toxemia simulate cholera and may cause death in less than one week.

Indicanuria is significant of the absorption of the products of putrefaction, which putrefactive material is usually situated in the gastrointestinal tract, but under exceptional circumstances may be in other parts of the body. It is well known that during putrefaction, phenol, cresol, fatty acids and gases, and other substances are elaborated, in addition to indol, skatol or methyl indol. The test for indican is so simple and the test for other putrefactive products so difficult that gradually indican has assumed the position of an indicator of the absorption, not only of indoxyl, but in addition any one or any combination of the bodies produced by the decomposition of proteids.

Indicanuria may be absent when proteid decomposition is present if absorption is prevented, and it is conceivable that intestinal toxemia occurs in the absence of indicanuria.

Indol is a volatile aromatic substance of fecal odor, crystallizing in white glancing crystals, is practically insoluble, and as it passes through the mucous membrane it is converted into soluble indoxyl and is carried by the portal blood to the liver, where it becomes indoxyl sulphate and later the indoxyl sulphate of potassium. When indican appears in the general circulation it is excreted as such by the kidneys.

Jaffé states that the subcutaneous injection of indol is followed by the appearance in the urine of large quantities of conjugated indoxyl compound. Herter maintains that indol is only moderately toxic to man and that small doses may produce frontal headache, mental irritability, insomnia and mental confusion, and that the continual absorption of enough indol to yield a constant strong reaction of indican in the urine is capable of inducing symptoms of neurasthenia. Skatol is supposed to act as does indol.

Phenol is extremely poisonous, but phenol-sulphate is non-toxic. Phenol is usually coexistent with indican and is increased and decreased in like manner, the principal exception being in anemia and cachexia, in which indican is increased and phenol is decreased, and in hunger, in which phenol is increased and indican is decreased. Cresol is supposed to act as does phenol.

During proteid decomposition of fatty acids, such as formic, acetic and propionic, are formed, and also certain gases, such as carbon dioxid, hydrogen, marsh gas and sulphuretted hydrogen. These acids are probably but moderately toxic in the quantities in which they exist under ordinary conditions; but it must not be forgotten that small quantities of sulphuretted hydrogen are extremely poisonous. On one occasion I administered per rectum sulphuretted hydrogen, which produced simultaneously rapid, intermittent, weak pulse, collapse, delirium, and a slight odor of this gas in the breath. These symptoms vanished in a few moments.

It is not improbable that in certain cases unknown or undiscoverable toxalbumins are formed which may be peculiarly poisonous even in very small quantities. No

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

exact knowledge exists as to the precise manner in which the body protects itself from the poisonous compounds produced during proteid decomposition, but it is believed that such an influence is exerted by the cells of the liver and intestinal mucous membrane. Baumann was able to demonstrate that the liver contains a larger amount of ethereal sulphates than does the blood. Clinically, indicanuria occurs more readily when the hepatic function is disturbed than when this organ is normal. Indicanuria not infrequently exists without symptoms. Occasionally putrefactive bodies are produced that are but slightly toxic, and certain individuals possess an inherited or acquired immunity, while others are peculiarly susceptible to very small quantities of these bodies. As it is unsafe to assume, in the light of our present knowledge, that indicanuria produces no harm when symptoms are absent, prudence dictates the prevention of its formation.

The conditions which favor indicanuria are numerous and demand attention. Morbid conditions of the teeth, mouth, oropharynx, nose and sinuses connected therewith, in their relation to the production of indol, possess an importance which is far too little recognized. Not infrequently the buccal cavity contains much decomposing material, together with many micro-organisms, both fermentative and putrefactive. The odor often suggests decomposition and examination may reveal abscess of the gums, pyorrhea alveolaris, with soft, flabby, congested and contracted gums, forming numerous cavities, in which pus and food may be retained under conditions peculiarly favorable to decomposition. A similar condition may arise fro [illegible] presence of food between the teet [illegible] is irregular dentition or caries. [illegible] rged crypts of diseased tonsils decomposing cheesy material may be found and suppurative rhinitis or sinusitis is not uncommon. When such conditions of the oropharynx, nose or sinuses exist it is manifest that food, even during mastication and before deglutition, may become infected and putrefaction begin.

Many causes favor the production of indol, such as simple excess of proteids from gormandizing; insufficient mastication or insalivation and too rapid eating; any condition paralyzing or lessening gastric, intestinal or colonic peristalsis, or retarding the onward progress of the gastrointestinal contents or interfering with the normal secretions of the stomach, intestines, pancreas or liver, etc. It is evident, therefore, that indicanuria is to be expected in gastrointestinal or colonic atony or paralysis as well as in relaxation of the abdominal wall, producing gastroptosis or enteroptosis. Again, hernia, ileus, appendicitis, local or general, acute or chronic peritonitis and pyloric or intestinal stenosis, constitute conditions favoring the growth of putrefactive bacteria.

The absence, diminution or excess of hydrochloric acid, by producing indigestion and fermentation, favor the production of indol.

Indicanuria has been observed in diarrhea, in association with indigestion, gastritis, enteritis, colitis, ulceration or obstruction of the small or large intestines, cholera, dysentery, Addison's disease and inanition. The deep importance of the [illegible] canuria as a complication in typhoid [illegible] in 1904, in a communication read before the Pennsylvania State Medical Society.

Constipation may exist without indicanuria, but is exceptional. Normal feces, the product of normal digestion in a normal individual, may remain in the colon an undue length of time without toxicity. Acute attacks of indigestion with furred tongue, offensive breath, constipation, mental and physical depression and headache, familiarly known as "biliousness" or congestion of the liver, are usually associated with indicanuria, and, in many instances, are examples of acute toxemia due to absorption of products of decomposition of the intestinal contents. It is more than probable that minor attacks of toxicity occur without well-marked symptoms. Recurring attacks of simple hepatic congestion, due to toxic poisoning, interfere with the normal excretion of bile, which in turn incites intestinal indigestion, fermentation and putrefaction, thus preparing the way for a similar attack on slighter provocation. In the course of months a chronic congestion of the liver is produced, aggravated by recurrent attacks of acute congestion, and thus, if the toxemia be moderate, in the course of years the clinical picture of hepatic cirrhosis may be developed.

Excessive formation of indol has been observed in various morbid states of the liver, with or without jaundice, in diseases of the pancreas, as well as in suppurative and gangrenous conditions of other parts of the body, as, for example, in empyema, gangrene or abscess of the lung and perityphlitic abscess; and has also been observed after the administration of turpentine or creosote.

Having thus far treated of indican as an indicator of toxemia, let us now turn to the various effects of toxemia.

Acute attacks of toxemia are frequently associated with dark-colored urine showing hyperacidity, high specific gravity, indicanuria and skatoluria, or moderate albuminuria and choluria, cylindroids and a few hyaline tube casts. As the toxemia increases in frequency and intensity, or becomes chronic with exacerbations, the albuminuria and cylindruria increase, and eventually, in consequence of long-continued irritation of the kidneys produced by the excretion of chemical irritants, resulting from intestinal putrefaction, chronic interstitial and parenchymatous nephritis develop. In the early stages, under appropriate treatment, these abnormal constituents in the urine disappear; again, in moderately severe cases, three, four or five years may elapse before this result is obtained.

The circulation in the blood of the derivatives of putrefaction absorbed from the intestines produces varying degrees of anemia, which, as a rule, is of the chlorotic type, and in long-standing and severe cases this anemia may become so extreme as closely to simulate the clinical and blood picture of pernicious anemia. The poison causes a rapid loss of hemoglobin and a slow loss of erythrocytes, but does not materially interfere with the leucocytes.

The circulation in the blood of these toxic substances at irregular intervals over a period of many years may cause the development of arteriosclerosis from direct action on the walls of the vessels. In a number of cases the conclusion was irresistible that this was the cause of arteriosclerosis.

The relationship of indicanuria to the nervous system is varied and most interesting. Several cases of neuroretinitis, associated with persistent and marked indicanuria, have gradually subsided and then disappeared, when this chronic poisoning was prevented; and in like manner, neuralgia or inflammation of other nerves have been produced. Occasionally pains in various parts of the body, due to intestinal toxemia, have been erroneously ascribed to rheumatism or gout. One of the common symptoms of acute or chronic intestinal toxemia is headache, either mild or severe, usually frontal, although it may be in the vertex or occiput. The duration varies from a few hours to a few days and may occur at intervals of two or three days, or as many weeks or months. An intermittent headache from this cause may continue unrecognized for months, and in one instance has been endured for seventeen years. Intestinal toxemia is as frequent a cause of headache as errors of refraction. Several examples of persistent insomnia, chiefly due to putrefactive poisoning, have come under my observation during the past decade. Certain individuals are peculiarly susceptible to minute quantities of putrefactive poison; this peculiarity has been especially observed among neurasthenics, in this respect resembling the well-known idiosyncrasy to alkaloids, such as atropin, etc. Chronic intestinal toxemia may induce or complicate cases of neurasthenia. It is not improbable that one of the reasons for the favorable results obtained from the use of a milk diet in treatment of neurasthenia is the incidental removal of an unrecognized toxemia.

Again, intestinal toxemia is a common complication of the various forms of mental diseases as seen at the Philadelphia Hospital, and occasionally it is the cause or complication of certain cases of epileptiform convulsions. The favorable course of many cases of pulmonary tuberculosis is interrupted by attacks of intestinal toxemia, and has been more frequently observed since the treatment of tuberculosis by large quantities of milk and eggs has become more general. The diagnosis of this complication is absolutely necessary for success in treatment of tuberculosis where a specific diet, suitable for the individual, should be substituted for the one in more general use. Putrefactive poisoning aggravates catarrhal inflammations of the respiratory tract and the recognition and removal of this complication is frequently followed by a marked amelioration of symptoms, and in like manner certain cases of bronchial asthma are greatly benefited. Eczema, pruritus, acne rosacea, and malodorous perspiration and breath have been observed in association with indicanuria.

Intestinal toxemia is a common disease in itself and a frequent complication of many diseases; its removal is very frequently followed by remarkable and prompt amelioration or disappearance of many distressing symptoms.

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ABSTRACT OF DISCUSSION

Dr. Heinrich Stern, New York: The pathologic significance of urinary indican, or rather indoxyl-sulphuric acid, has been grossly exaggerated. True, there ensues an increased production of indoxyl compounds in cholera, Addison's disease, obstructive affections of the small intestines, etc., but this does not justify us in ascribing to them toxic qualities, and to maintain that they stand at the foundation of a number of pathologic conditions. Of course, the indoxyl compounds have no direct relationship to so-called pyorrhea alveolaris, they are neither its cause nor its result. The indoxyl compounds are normal urinary constituents and we find them in small amounts in every human urine, except in that of new-born and breast-fed infants. Indoxyl is even contained in the renal secretion of infants who obtain besides human milk also some cow's milk and even in these instances, it occurs in the absence of any digestive disturbances whatsoever. Increased amounts of indoxyl as found in the urine allow of but one interpretation, namely, that we are confronted with some form of tryptic perversion. Some observers hold that the trypsin of the pancreatic secretion induces or favors the production of indoxyl. Their contention is based on two facts, viz.: the tryptic quality as regards decomposition of the ingested proteid material, and the decrease of urinary indoxyl in case of an occlusion of the pancreatic duct. Clinical experiments and observations, however, have demonstrated to my satisfaction that in the majority of instances of so-called indicanuria, we have to deal with an insufficiency of tryptic function and, consequently, with abnormal putrefactive processes and the augmentation of the intestinal bacterial flora. While it is, of course, possible that an indicanuria may occur with a process like pyorrhea alveolaris while it is even possible, although it has never been proved, that perverse intestinal putrefaction may stand in some more or less remote relationship to pyorrhea alveolaris, we have no business to maintain that one of the accidental products of such putrefaction, the indoxyl, is the true causative agent of this or of any other affection. We must not forget that pyorrhea alveolaris is an exceedingly progressive, chronic affection, and that indicanuria, that is the excessive excretion of indoxyl compounds, is essentially an acute, or at least, a limited occurrence. Is it possible that the rather ephemeral indicanuria will give occasion to the enduring pyorrhea? The same contention holds good with all other affections which, at one time or another, have been accused of having excessive excretion of indoxyl as their causative factor. The indoxyl compounds are not toxic in themselves, so far as we know, they are of more or less accidental occurrence, and may point to an occlusion of the small intestine with a decrease of tryptic function and an increase of bacterial activity. Everything else belongs to the realm of speculation. Moreover, I wish to direct attention to the fact that indoxyl occurs not only in the urine of carniverous but also in that of herbiverous animals. As a matter of fact, it is present in the urine of some of the herbivora in much larger quantities than in any of the carnivora. It occurrs in enormous amounts in the urine of the horse, from which we obtain it for experimental purposes. It may also be prepared from the urine of the dog, but, in my experience it is purer when it is derived from horse's urine. In the latter, it is present in larger proportion than in that of cattle. The reason for this seems to be the large cecum of the horse which permits additional and more complete disintegration of the ingested material. Indoxyl does not occur in the urine of the rabbit, as a general rule, but I have found it therein in the presence of artificially induced obstipation. While indoxyl appears in the urine in larger amounts after a diet rich in animal food, it never attains pathologically that proportion in the human being which is normally present in the urine of the horse. This evinces, I dare say, that animal food and the ensuing putrefactive processes, in herbivorous animals at least, are not the only source of indoxyl compounds and that vegetable ingesta and fermentative processes may give rise to indican production. I have employed for some time the potassium chlorate-chloroform-hydrochloric acid test advocated by Dr. Daland for clinical work.

Dr. Henry R. Harrower, Chicago: The subject under discussion appears to be unquestionably the entering wedge to even more important and vital studies. Dr. Daland has rightly emphasized the significance of indicanuria and its importance as an etiologic factor in disease. A point which I wish to emphasize, however, is the close relation between indicanuria and diseases of the mouth and teeth. As a matter of fact, mouth symptoms are among the first manifestations of those disturbances due to or associated with indicanuria and its causes. Acid saliva, pyorrhea and affections of the alveolar process are almost invariably accompanied by indicanuria. The pioneer work in this particular line of Dr. Eugene S. Talbot of Chicago proved this assertion. Acidemia is also frequently found associated with indicanuria; I do not refer to the acidosis of diabetes. In a series of several hundred uranalyses the average acidity was increased considerably, varying from 10° to 275°, the normal degree of acidity being from 30° to 40°. Each degree represents the amount of N/10 sodium hydrate required to neutralize 100 c.c. of urine. The number of acid units (and, by the way, this is an important factor recently suggested by Dr. A. L. Benedict of Buffalo) varied from about 8,000 to 350,000 in twenty-four hours, 40,000 being approximately the normal. In 83 per cent. of these cases indican was present to a greater or less extent, those cases showing an excess of indican always giving a marked increase in acidity. A number of cases showing indigo red instead of indigo blue all evidenced a tremendous acidity. In 81 per cent. of this series the urea index was diminished an average of one-half; in one case in which the acidity reached 220 and indican was abundant the percentage of urea was only 0.4 (2.8 gm. in twenty-four hours). About one-third of these cases showed casts. Summing up these facts it will be seen that indicanuria is practically always associated with an excessive elimination of acid substances in the urine and a marked decrease in the amount of urea, two very important findings. I believe that the condition of acidemia or diminished blood alkalinity is of far greater importance than present medical opinion or the text-books would lead one to believe; that it is a probable cause of many obscure diseases and consequently deserves more extended attention and thorough investigation. Further, the reduction of this condition of excessive acidity by the judicious use of suitable remedies brings with it a speedy and decided amelioration of many indefinable ills.

Dr. Richard C. Cabot, Boston: After using the test for indican for a long time in different clinical conditions, I have given it up and I would advise others to give it up. We sometimes get an increase of indican in the urine in pathologic conditions, of course; but in such case the nature of the pathologic condition present is much more obviously indicated from the clinical side. Indicanuria gives us no diagnostic or therapeutic indication. What was the relation of indicanuria and indican production to the diseases Dr. Daland mentioned?

Dr. Allen A. Jones, Buffalo: I think that Dr. Daland has mentioned two points in particular that are worthy of our consideration. The first is that normally from 25 to 50 grams of indican are excreted in twenty-four hours; whereas, abnormally from 50 to 150 are excreted. So I believe that it should be routine work to estimate the amount of indican excreted in twenty-four hours. The indican test has been employed in my laboratory for many years, using the qualitative but not the quantitative test. It may be that by using the quantitative test one may arrive at some definie clinical conclusions. So far as the qualitative test is concerned, very little attention is paid to it at the present time in a routine way except in the laboratories. Years ago an attempt was made to associate indicanuria with a definite condition of the stomach, a diminution of the amount of hydrochloric acid in the gastric contents; in my series of 160 cases, I could not prove any definite relation between the amount of secretion of hydrochloric acid and indicanuria, which was found with and without any diminution in the amount of hydrochloric acid in the gastric contents.

So far as can be gained from Dr. Daland's paper, we can come to but one general conclusion, *i. e.*, indicanuria is merely an evidence or symptom of a toxemia, and this toxemia may come from a variety of conditions. It is not associated with any definite pathologic condition in the body, or in other words, any definite disease.

Dr. Anthony Bassler, New York: My experience is confirmatory of Dr. Jones' statement concerning the relationship existing between states of gastric juice secretion and indicanuria. It is generally taught that the regular association with indicanuria is a low state of gastric juice secretion, but this is not always so. A marked indicanuria may exist with excess stomach secretion. Clinically speaking, I do not think that the indicanuric conditions are only produced by hypochlorhydria and anachlorhydria, but believe that the intestinal conditions called indicanuria often cause depression of the secretory apparatus of the stomach, for by the direct treatment of the intestinal condition its effects on the stomach are often mitigated or removed. I regret that Dr. Daland did not have time to describe his test, and I wish he would add whether the use of the solution he advocates will also give the uroresin reaction, which to me is just as important as indican.

Dr. Judson Daland, Philadelphia: I think that Dr. Jones' understanding of indicanuria is the correct one, namely that it is simply an indicator of the absorption of putrefactive substances, a certain toxemia. Much benefit is derived from the study of the presence of indican in the urine. To me, at least, it has been of great service. Indicanuria serves to aggravate certain conditions. To show this, I recall two cases of retinitis under the care of a skilled ophthalmologist, who found that the condition was toxic. Indican was present in the urine in large amounts. By successfully treating the indicanuria the patient made a good and rapid recovery from his retinitis. We can always take exceptions to clinical evidences; but clinical evidence is necessary because we are not in a position to offer experimental evidence. I have had the opportunity of watching the renal secretions under many conditions in association with indicanuria, and I have observed its disappearance followed by a clearing up of the evidences which make some believe there is an involvement of the kidney. I desire to repeat that indican itself is not a substance capable of producing any material interference with health; but in those conditions in which there is the continued presence of a large amount of indican I have found associated evidences of disorders of various parts of the body which, in my opinion, were due to the formation in the intestine of toxic substances of different kinds which I am unable to differentiate. Therefore, I use this test as a rough clinical method; when indicanuria is present, by causing the removal of the indican from the urine we improve the patient very materially. This is merely a clinical contribution. I was especially glad to hear Dr. Harrower speak of the condition of acidemia or diminished blood alkalinity.

CARDIAC AND VASCULAR COMPLICATIONS IN PNEUMONIA

WITH SPECIAL REFERENCE TO TREATMENT *

F. FORCHHEIMER, M.D.
CINCINNATI

If we glance at the etiologic conceptions which formerly existed in connection with lobar pneumonia—and unless otherwise stated lobar pneumonia is the only form of pneumonia referred to in this paper—it will not be difficult to see why the heart was neglected. Those who believed in a humoral origin of the disease assumed that the only thing requisite for the cure of pneumonia was blood-letting, and that it was not necessary to look to the heart. Indeed, with Bouillaud's formula of bleeding (1830), *coup sur coup* and withdrawing twelve to sixteen ounces at a time, the heart was literally neglected. Then came a time when bleeding was restricted to cases which presented some indication for it, although, as Trousseau says, most physicians and all the laity could not conceive of pneumonia patients recovering without it. The indication was not stated precisely, but more or less vaguely as, with Trousseau, general congestion. About the same time (1847) Skoda and Dietl (1847) pointed out the dangers, as well as the inutility, of the procedure in any case of pneumonia and substituted for it that which has been called the expectant treatment, or better, nihilistic treatment, which, however, was followed by more recoveries than had ever followed bleeding.

It was not until 1874, when von Jürgensen wrote his remarkable article,[1] that the heart was brought into prominence; he says: "The danger to life which croupous pneumonia produces in the patient first threatens the heart. Pneumonia death is caused by cardiac insufficiency." In this article, which in some ways is almost prophetic, he says, "Sine pulsu nulla therapia," thus differentiating pneumonia from typhoid fever, in which there is no treatment without the thermometer. Furthermore, among many other things now accepted, von Jürgensen recommends the fresh-air treatment, which has been so successfully rediscovered within the last few years.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] In von Ziemmsen's Handbuch der speciellen Pathologie und Therapie, vol. v, part 2

About ten years after this (1884-5) A. Fraenkel discovered the cause of lobar pneumonia, namely, Fraenkel's diplococcus, the *micrococcus lanceolatus*, or as Fraenkel himself calls it, the pneumococcus. From this time our expectations of increased knowledge were fulfilled. For clinical and therapeutic purposes many things have been added, for the study of blood-vessel conditions the most important is found in Romberg and Pässler's contribution [2] on the effect of pneumonia infection on the general circulation. These two observers showed that the toxic albuminoid which is produced during metabolic activity of the pneumococcus paralyzes the vasomotor center in the medulla oblongata, and Pässler, in a subsequent communication[3] states that this is the most common cause of death in pneumonia, in as far as the circulatory apparatus alone is concerned. The objections to the complete acceptance of this view were that there was the incomplete accordance of experimental results and clinical observation, and that the condition had not been identified in man. At the present day the first may be considered as having been satisfactorily settled; for the second, although identification is fairly complete, much more must be done in order that the clinical picture may be accepted by the profession at large. I do not hesitate to state that with a healthy heart vasomotor paralysis is the most common cause of pneumonia death, in so far as the cardiovascular apparatus is concerned, and it goes without saying that this mode of death may occur irrespective of health or disease of the heart. As a matter of fact, there is still some doubt whether, with sufficient infection to produce this vasomotor condition, the heart muscle is not always affected and whether the former or the latter develops first.

Long ago it has been shown in animals that, on section of the splanchnic nerve, an enormous quantity of blood accumulates in the intestine, which is followed by intense anemia in other organs, especially in the central nervous system, which may cause death. The splanchnic nerve is the vasomotor nerve of the intestines, and its section causes paralysis of vasomotor function and enormous dilatation of blood-vessels. In paralyzing the vasomotor center with the pneumococcus the same result follows in man. In brief, in man there is first, dilatation of blood-vessels in the splanchnic area; the blood-pressure, which sooner or later is normally low in pneumonia, sinks; the heart, which is supplied by an insufficient quantity of blood, which is gradually becoming stationary in the affected area, continues to draw blood from other places, the liver, the skin, the muscles and central nervous system, and becomes more and more rapid and ineffectual, "bleeding itself into the splanchnic area," and finally stops. The intracardiac pressure is reduced so that the myocardium ceases to contract; moreover, the various cardiac and vasomotor centers become asphyxiated, and therefore paralyzed.

All this, as Pässler first pointed out, produces a characteristic clinical picture. My observation has led me to add to his description, so that it presents itself as follows: The first evidences are rapidity of heart and sinking of blood-pressure; with this, or shortly afterward, there comes tympanites; the patient then presents an exsanguinated appearance, with beginning evidences of collapse; the pulse becomes irregular, empty and so rapid that it cannot be counted; symptoms of cerebral anemia begin to appear—delirium, hallucinations, sometimes great restlessness; they gradually disappear to be superseded by stupor and coma; the collapse increases; the heart becomes more irregular; the heart sounds disappear, and the patient dies.

With such an appalling possibility staring us in the face in every case of pneumonia (for we are not in a condition to determine when the infection is sufficient to produce the condition described), it would seem natural to resort to means in order that its development may be prevented. In order to accomplish this purpose A. Fraenkel[4] recommends the administration of digitalis. He gives ¾ gm. a day for three or four days, maximum 12 gm. in all, in all cases which come under observation within the first three days of the disease. It is contraindicated in patients with organic disease of the heart, kidneys or blood-vessels, and he does not apply this mode of treatment in drinkers and patients over 50 years of age. His results seem to be satisfactory; the temperature sinks; the pulse does not become more rapid and the blood-pressure never diminishes. Theoretically there can be no objection to this mode of treatment, but my own experience with it has not convinced me that it is the best. In 1891 Petresco[5] of Bucharest published an article on the treatment of pneumonia with large doses of digitalis in which he recommends the administration daily of 4-8 gm. of digitalis infusion given in twenty-four hours, according to the severity of the case. In some cases he gave as much as 24 gm. in four to five days. As there was an epidemic of pneumonia in my wards at the time of the appearance of this publication, all the patients were put on this treatment. I failed to verify nearly all of his conclusions, even to the small detail that the pulse fell after one to three doses had been given. On the contrary, mortality was greater than before. All the evil effects that can be produced by digitalis were noted, and after three days of administration of the remedy such cumulative effects were produced as I shall hope never to see again.

The next remedy which I tried was the routine administration of strychnin; while I should not want to be without it in the acute infections, it does not prevent the vasomotor syndrome which is under consideration.

Because of the peculiar action of caffein, in stimulating the vasomotor center and its action on the heart, I have administered this drug for the last twelve years in a routine way. Caffein always increases blood-pressure, unless there is some organic lesion which in and of itself produces increased blood-pressure. Thus, in nephritis, when the pressure is abnormally high, it is doubtful if the pressure goes higher on administration of caffein, but the presence of this complication is, it seems to me, an additional reason for giving the drug.

In aortic sclerosis and splanchnic sclerosis caffein may be given with safety when the blood-pressure is below normal, or when it sinks. In all organic heart lesions it is also safe. So that the only contraindication for its use would be abnormally high blood-pressure, when there is danger of doing harm by the possibility of increasing it, a condition which may present itself in cases of cerebral arteriosclerosis, or in recent endocarditis. I have never seen any other effect on the heart than diminution in rate in pneumonia when the drug is given in proper doses. For prophylactic purposes it is not necessary to give more than 0.10

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[2] [illegible] Pässler, H.: Experimentelle Untersuchungen [illegible] Pathologie der Kreislaufstörungen bei akuten [illegible] Deutsch. Arch. f. klin. Med., 1895, lxiv, pp. 652-763.

[3] Pässler, E.: Zur Behandlung der fibrinösen Pneumonie, München. med. Wchnschr., 1901, xlviii, No. 8.

[4] Fraenkel, A.: Spezielle Pathologie and Therapie der Lungenkrankheiten, 1904, ii, 372.

[5] Petresco: Therap. Monatshefte, 1891, p. 121.

to 0.30 gm.—(gr. i ss to v) every four hours. When the symptoms of "bleeding into the splanchnic area" have developed it should be given hypodermically 0.20 gm. three or four times daily. I employ the double salts (preferably the caffein-sodiosalicylate because it is best made in this country), as they are more stable when dissolved in water, more soluble and less irritating when administered hypodermically than any of the other salts of caffein. On the whole, they do exactly what Fraenkel has claimed for digitalis; they reduce the pulse-rate, the fever may become reduced; they increase the blood-pressure; they reduce the mortality without being subjected to many limitations in administration and without producing the unpleasant effects of digitalis when given in proper dosage. Occasionally it occurs that patients become nervous and sleepless, which is remedied by reduction of dose.

Other preventive measures of great importance should also be considered. First among them I would place the fresh-air treatment, which reduces wear and tear, rendering all patients less liable to fatigue and which also lessens toxemia. Next to this, I would emphasize the necessity of treating sleeplessness from whatever cause it may arise; the continuance of wakefulness is very dangerous, both for the nervous system and for the heart, and as von Jürgensen says, "there are cases in which the whole therapeutic problem temporarily reduces itself to the production of sleep." Lastly, it may become necessary, in individual cases to reduce the temperature. I have purposely said "individual cases," as antithermic treatment is not necessary, as a rule. When the temperature produces damage it should be reduced, but only by such measures as do no harm, and especially do no harm to the heart.

The Nauheim or calcium chlorid baths, as recommended by P. K. Brown,[6] in vasomotor paresis in acute infectious diseases might be advantageously employed instead of the ordinary cool or cold bath, especially as a preventive measure. Besides these, all those other dietetic, hygienic and therapeutic measures and the proper treatment of other symptoms must be considered as acting prophylactically, notably those which may affect the central nervous system unfavorably.

When the symptom-complex has developed then most energetic measures should be adopted. In 1898 I was successful in arresting a case of splanchnic vasomotor paralysis, and in 1904, after having had a number of cases, two of which were in children, I published the method[7] which had been successful. It is as follows: Adrenalin is employed for the purpose of contracting the blood-vessels of the spanchnic area, for which, according to Abel, it has an elective affinity; hypodermoclysis or venous transfusion with large quantities of normal saline solution (0.90 per cent. Hamburger) for the prevention of asystole, one or two ice-bags on the abdomen which reduce the pulse, probably by stimulation of a splanchnic reflex. Adrenals were first recommended in pneumonia by E. A. Gray[8] in 1902. Henry L. Elsner[9] recommends adrenalin for vasomotor paralysis for precisely the same reason as stated above. Adrenalin may be given with the hypodermoclysis, 1 c.c. of a 1000 solution; the frequency of its application must depend on the symptoms, as its effects are transitory. This is one of the few conditions in which a physician should be "in constant attendance." According to the rate and rhythm of the pulse, which are entirely satisfactory indices, even without blood-pressure estimations in the onset, the drug should be administered every two to four hours. This cannot be kept up very long, so that I have found it necessary to give hypodermic injections of caffein to take the place of the hypodermoclysis, which usually results in giving three or four saline and adrenalin injections a day and four doses of caffein. In the first twenty-four to thirty-six hours most reliance should be placed on hypodermoclysis; with the added adrenalin gradually the caffein is allowed to take its place. The ice-bags are valuable adjuncts; in one patient, without any other treatment, I succeeded in reducing the pulse-rate from 140 to 60 per minute. As soon as such an effect is produced, or when tympanites disappears, the ice-bags should be discontinued, to be reapplied when the pulse goes up or the tympanites reappears. This mode of treatment, applied in all kinds of vasomotor paralysis, has given me about 50 per cent. recoveries. Esser[10] has employed large doses of camphor hypodermically to increase blood-pressure; in one case he gave 23 gm. (345 grains) in four days. He lost 2 cases out of 13—but his record is not perfectly clear, as 2 cases, at least, belonged to another type of heart failure.

The subject of dilatation of the right heart as a menace in pneumonia has received considerable attention by modern writers. Those of us who have seen a great deal of pneumonia will admit that it is a rare occurrence. A. Fraenkel[4] states that it cannot be found in all serious cases. Petzold[11] records observations in 271 cases without having found it once. Pässler[3] claims that it may occur in rare instances from increased resistance in the pulmonary circulation. On the other hand, all pathologists point out the fact that after death the right chamber of the heart is distended by firm coagula. But, as it *is* admitted to exist by clinicians, it seems unnecessary, at this time, to discuss the apparent discrepancy between clinical and the pathologic-anatomic attitudes; we certainly must admit with A. Fraenkel that if the heart is not too unfavorably affected by toxic effects, resistance in the pulmonary circulation "is overcome without difficulty and without dilatation of the right heart in the greatest number of cases."

The clinical picture differs altogether from that produced by vasomotor paralysis. The patient is cyanotic; there is great dyspnea; increased activity of all the obligatory as well as accessory respiratory muscles, as well *as by* all the other evidences of dyspnea are present. On examination we find the jugular veins overfilled, the movements of the heart very much increased, especially those of the right ventricle; on percussion there is increased heart dulness to the right from 1 to 3 cm.; on auscultation there is accentuation of the second pulmonary sound which disappears as the case progresses. Frequently edema of the lungs is also found. The liver is usually enlarged; when the condition lasts for over twenty-four hours it is very much enlarged. The patient dies in asphyxia—never in collapse, unless this condition is combined with vasomotor paralysis. The simplest treatment of this condition is blood-letting by venesection, and ordinarily from eight to sixteen ounces should be drawn. Primarily the pulmonary circulation is relieved, and, secondarily, the dilatation of the right heart. If there is pulmonary edema this may also disappear; at all events when done properly, phlebotomy is followed by remarkable results, so remarkable, indeed, as to make one wonder if blood-letting has not become what Gross called it, a lost art. It is, however, not necessary to do this in every case. The mode of treatment which is applied in ordinary cases of acute myocardial insufficiency is usually sufficient. It consists of hypodermic injections of digitalin in large doses, of camphor and ether, of caffein. Alcohol is not indicated unless the patient is an alcoholic.

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[6] Brown, P. K.: Tr. Assn. Am. Physicians, 1906, xxi, 641.

[7] Forchheimer, F.: Acute Myocardial Insufficiency, Arch. Pediatr., 1904, xxi, 684.

[8] Gray, E. A.: The Influence of Suprarenals in Pneumonia, Med. Rec., 1902, lxi, 327.

[9] Elsner, Henry L.: Treatment of Cardiac Asthenia of Pneumonia, New York Med. Rec., 1904, lxxix, 12.

[10] Esser.: München. med. Wchnschr., 1904, ii, 2314.

[11] Petzold: Deutsch. Arch. f. klin. Med., lxx, 373.

The other cardiac conditions which may develop in the healthy heart are pericarditis, acute myocarditis and endocarditis. Endocarditis is the most frequent complication, and the third most common cause for pericarditis is the pneumococus. In regard to acute myocarditis in pneumonia our knowledge is fragmentary. Without any other cause the frequency of pericarditis and endocarditis would lead one to imagine that acute myocarditis should also be present. But from what we know of the etiology of acute myocarditis this could not be final, as we find acute myocarditis in pneumonia, without either pericarditis or endocarditis. It seems, however, that acute myocarditis in pneumonia is the postfebrile form and as such leads to sudden death from acute myocardial insufficiency. Acute endocarditis is found as the simple and the septic form (malignant, ulcerative endocarditis). As pneumonia is a bacteriemia, it is not remarkable that the septic form develops with relative frequency. The treatment of these conditions is the same as is applied to them under other conditions.

From von Leyden's statement it seems that we in America, as well as the Russians, have taken to employing strychnin in the heart complications of pneumonia and, as he says, he also has employed it with benefit. As far as the heart is concerned, strychnin has an effect only in toxic doses. Indirectly given in normal doses it may, however, affect the heart by stimulating its inhibitory center, and, therefore, reducing its rate. It furthermore is followed by contraction of blood-vessels, but, in man, not sufficient to increase blood-pressure. As strychnin increases the irritability of the cord somewhat, many of the normal functions of the cord are increased in activity. Furthermore, it stimulates the respiratory center, in normal doses, but large doses are followed by paralysis. It would seem, then, that when we give large doses, so frequently administered in pneumonia in a routine way, we may stimulate the heart, but do great damage to the respiratory center. In small doses it is invaluable in pneumonia, in acute myocarditis, although it has also been given in enormous doses here with apparent success, but it is especially valuable as a stimulant of the respiratory center—indeed, as a stimulant of the whole cord. On the other hand, its routine administration, especially to the degree of producing toxic effects, should not be encouraged, as it does not prevent the accident we now most fear and, moreover, produces deleterious effects. Elsner[9] most forcibly states the position in regard to the administration of nitroglycerin in a healthy heart; we already have lowered blood-pressure; why should we increase it, and bring it to or beyond the danger line? It should not be given, even in overfilling of the right ventricle, as it especially affects the splanchnic area.

The treatment of pneumonia with coexisting heart disease has been variously described. Some authors give digitalis in every case, others only for specific indications. It would seem that as in routine administration of digitalis in any heart disease this drug might do harm, as it does when administered indiscriminately. With the present advance which we owe to modern pharmacy, in giving us reliable glucosids, acting when given in proper doses, either hypodermically or intravenously, with certainty and promptly, the preparation of the heart for a possible breakdown, which takes at least two days, is no longer necessary. At least such has been my experience in the last three or four years. In chronic valvular disease in which I always gave digitalis formerly I now restrict its administration to those cases in which there is a probability of decompensation because of the additional work put on the heart. The conditions may be summed up as follows, such as have already had decomposition or are having it when pneumonia develops, and, furthermore, in those valvular lesions in which compensation is not complete. Therefore, in all valvular lesions, except aortic or mitral insufficiency in which there is complete compensation, it is not wise to take chances.

With diseases of the myocardium we find, on the whole, the most dangerous complicated form of pneumonia; Pässler's statistics show that in pneumonia with chronic myocarditis the mortality is 93 per cent. While I believe this to be an exaggerated statement, because of the small number of cases which are considered, it is, nevertheless, true that chronic myocarditis is the greatest menace to life in patients with pneumonia. But here, as well as in all other forms of myocardial diseases, the degree of danger lies in the degree of existing chronic myocardial insufficiency. Any patient who goes into an attack of pneumonia with abnormally low blood-pressure due to chronic myocardial insufficiency has little chance for recovery.

Whenever any manifestation of myocardial insufficiency develops it should be treated as an acute myocardial insufficiency. The results naturally vary with the form of myocardial disease and with the individual condition. In the fat heart little can be expected from digitalis or strophanthus when the myocardium is already weak or there also exists arteriosclerosis. In the heart of Bright's disease when, notwithstanding the existence of heart disease, the blood-pressure goes down, caffein should be given in large doses and digitalis as well. In arteriosclerosis the blood pressure is an infallible guide to therapy; when it sinks the ordinary remedies should be applied; when it remains high it is not wise to give vasodilators. Myocardial disease due to other conditions, as chronic respiratory troubles, malformations of the thorax, etc., should be treated as all other chronic myocardial insufficiencies, in addition to which, at times, it may be possible to employ causal therapy.

Pericarditis does harm in two ways, either producing myocardial insufficiency by extension to the myocardium, by the production of adhesive processes or—which is rare—by the presence of fluid in the pericardial sac. When the latter exists the fluid should be removed; otherwise, the myocardial insufficiency should be treated.

Fourth and Sycamore Streets.

ABSTRACT OF DISCUSSION

Dr. De Lancey Rochester, Buffalo: I regret that Dr. Forchheimer could not go into the details regarding the treatment of dilatation of the right heart, because that is one of the conditions that it is not uncommon in pneumonia; in fact, it is very common. It is one of the conditions in which venesection is particularly indicated. I can recall at present twelve cases of pneumonia with dilatation of the right heart, and in all of them I believe life was saved by doing a prompt venesection, withdrawing from 200 to 400 c.c. of blood. As illustrative of its value, I should like to report one case. This patient was 18 years old, and had had a progressive pneumonia involving one lobe after another, so that all the right lung and the upper lobe of the left as well as the pericardium were involved. The heart's apex was in the axillary line and the pulse was 180 or more, very irregular and small. The liver was two inches below the costal margin. There were present all the evidences of a dilated right heart. Flatness was complete on the right side, and it was feared that there might be fluid, and so the chest was aspirated in four directions, but nothing was found but solid lung. This patient was bled 250 c.c., and during the bleeding the respirations, which had been 66 to the minute, fell to 36; the pulse, which had been 180 and irregular and small, dropped to 120 and showed better tension. The heart, which had been in the axillary line moved to midway between the axillary and nipple lines in the fifth interspace and acted better. This patient's life was saved This illustrates one of the cases in which venesection was successful. It is a procedure which has gone into disrepute, but it should be used always when indicated.

Dr. Frank Billings, Chicago: We all agree with Dr. Forchheimer that active measures are necessary when the cardiovascular syndrome develops; until that time, we are not all agreed as to what we should do with such patients. I think there is no disease in which rare judgment is so necessary not only in knowing what to give, but in knowing when not to give drugs. From my own experience I find that the longer I live and attempt to cure patients with pneumonia, the less I am inclined to give mixtures containing drugs until they are necessarily called for, and this is especially true in hospital work. The moment that cardiovascular symptoms appear, with the lowered blood pressure, with failing left heart, the time has then come for active work. I believe in the proper use of digitalis, but not as ordinarily given and by the mouth. With the hypodermic use of digitalis I have had a sad experience; it was with the active principles of the drug, and now I practically never use them. But I do use a preparation of the leaves themselves.

In an emergency, the intravenous use of digitalis gives good results. When used in that way it is not necessary to repeat the dose unless symptoms indicate. Four, six, ten, twelve doses may be necessary, and perhaps one dose, in some instances, will accomplish all that is necessary.

There are other remedies besides digitalis which increase the ordinary tone. Caffein is a good agent and camphor will readily raise the blood-pressure in cases of failing left hearts. I give one or two-grain doses in ordinary camphorated oil. Musk also will raise the blood-pressure. Strychnin and other drugs that are commonly used in failing left heart are absolutely valueless except to stimulate nerve centers; strychnin will not raise the blood-pressure 1 mm. I have used it over and over again. If that unfortunate condition occurs, dilatation of the right heart, I think that venesection is the one remedy to be applied and immediately, and it matters not whether the patient be plethoric or not.

The use of cold applications to the chest I have followed. In failing heart the applications of bandages about the extremities is sometimes of value. But whatever is used must be used with good judgment or more harm than good may result.

Finally, the watchful and vigilant care of patients afflicted with pneumonia without the use of drugs is the ideal treatment. Do not attempt to do good by any specific medication, but attempt to preserve the functions of the individual's body, and do not be nihilistic regarding the use of remedies. I think we may say that with proper management of the patient we may occasionally save patients who might otherwise die.

Dr. C. F. Hoover, Cleveland: I wish to call attention to the danger of accepting a measurement of blood-pressure as an equivalent for the mass movement of blood. The fact that a patient has a maximum blood-pressure equal to a column of mercury 140 mm. high, does not justify the deduction that the mass movement of blood is satisfactory. Patients with severe mitral stenosis, for instance, may have a great disturbance in the blood distribution of the body with marked asystole, and still have a normal arterial pressure. The sphygmomanometer is not a safe guide in estimating the mass movement of blood. The position of the right border of cardiac dulness, the size of the liver, the pulsations in the internal jugular vein and the duration of the pulse in relation to the maximum systolic blood-pressure are all factors which must be considered in estimating circulatory efficiency. To estimate the size of the right auricle by percussion is one of the nicest refinements of physical diagnosis, and yet this very point is one which must be determined to settle the question of therapy in pneumonia if we are to anticipate an advanced cardiac incompetency with a suitable therapy.

Dr. John H. Musser, Philadelphia: It is very important that we should remember in those cases of apparent cardiac failure, that such cardiac failure is the result often of pericardial effusion. Too often do we see these patients treated for heart failure, or acute dilatation of the heart in the course of pneumonia when by removing a few ounces of fluid from the pericardial sac the serious symptoms are relieved.

Of course Dr. Forchheimer will agree that the best treatment of the heart is that which is applied in the first period of the disease, as soon as the pneumococcus infection is recognized. Therefore, the results that are to follow will depend on such form of management. I am in sympathy and in accord with what Dr. Billings stated. In the majority of the cases I prefer to rely on fresh air, on judicious local treatment, on hydrotherapeutics, on regulation of the proper amount of food taken, and particularly on care that the patient is not overfed. I watch carefully for the phenomena so well pictured by Dr. Forchheimer, guarding against the possibility of the vasomotor syndrome by proper renal elimination. Attention to proper elimination is of the greatest importance in the management of the cases of pneumonia, looking toward the prevention of cardiac failure; in other words, looking toward the reduction of serious toxic symptoms that arise and have expression more particularly in the phenomena just pointed out. To keep down the amount of food is of the greatest importance in the management of pneumonia patients. Watch carefully the state of the intestinal tract. Tympany is a serious toxic symptom in pneumonia and its increase with defective elimination is a point that I depend on as suggestive of the occurrence of vasomotor failure. This can be prevented very largely. Colitis occurs with the pneumococcus affection, and this colitis is undoubtedly the cause of the development of tympanitis; the colitis plus the toxemia invites an intestinal paresis. Hence to prevent this colitis which gives rise to the tympany, it is well to observe carefully the diet, regulating judiciously the amount and kind of food taken, and washing out the bowels with normal salt solution. Basing treatment on the idea that cardiac symptoms are threatened when renal insufficiency appears, I begin very early the use of caffein; this is perhaps the only remedy I would begin with as a routine measure. In addition I rely on cocain when the conditions become more extreme.

In regard to right-sided dilatation of the heart I agree with Dr. Rochester as to the value of early venesection. One must remember that we must not place too much stress on the physical signs brought out by percussion and auscultation. I am not so much disturbed by the development of murmurs suggestive of dilatation as I am of the appearance of vasomotor phenomena. I am not alarmed when asked to see cases of old valvulitis with mitral regurgitation. When we observe a murmur over the right heart, or a murmur at the apex, there comes into play the safety valve action of the tricuspid; this was pointed out long ago by Guiteras and often bodes much good in these cases.

Dr. Alexander Lambert, New York: Eight years ago I became dissatisfied with the results of the treatment of pneumonia that I had been following; they were very unsatisfactory and I decided that when a large number of pneumonia cases came into the hospital, as at Bellevue Hospital, it would be well to compare the results of different treatments carried on simultaneously. In my division at Bellevue Hospital (there are four divisions), I gave up the use of alcohol and nitroglycerin and simply used those drugs by which we obtain a rise in blood-pressure. After three months, when each division had had from 125 to 137 patients each, I found that in those cases where alcohol and nitroglycerin has been used, the statistics were 10 per cent. higher in death rates in which the vasodilators had been used than were shown by those in which the is followed by remarkable results, so remarkable, indeed, as to make one wonder if blood-letting has not become what Gross called it, a lost art. It is, however, not necessary to do this in every case. The mode of treatment which is applied in ordinary cases of acute myocardial insufficiency is usually sufficient. It consists of hypodermic injections of digitalin in large doses, of camphor and ether, of caffein. Alcohol is not indicated unless the patient is an alcoholic.

The other cardiac conditions which may develop in the healthy heart are pericarditis, acute myocarditis and endocarditis. Endocarditis is the most frequent complication, and the third most common cause for pericarditis is the pneumococcus. In regard to acute myocarditis in pneumonia our knowledge is fragmentary. Without any other cause the frequency of pericarditis and endocarditis would lead one to imagine that acute myocarditis should also be present. But from what we know of the etiology of acute myocarditis this could not be final, as we find acute myocarditis in pneumonia, without either pericarditis or endocarditis. It seems, however, that acute myocarditis in pneumonia is the postfebrile form and as such leads to sudden death from acute myocardial insufficiency. Acute endocarditis is found as the simple and the septic form (malignant, ulcerative endocarditis). As pneumonia is a bacteriemia, it is not remarkable that the septic form develops with relative frequency. The treatment of these conditions is the same as is applied to them under other conditions.

From von Leyden's statement it seems that we in America, as well as the Russians, have taken to employing strychnin in the heart complications of pneumonia and, as he says, he also has employed it with benefit. As far as the heart is concerned, strychnin has an effect only in toxic doses. Indirectly given in normal doses it may, however, affect the heart by stimulating its inhibitory center, and, therefore, reducing its rate. It furthermore is followed by contraction of blood-vessels, but, in man, not sufficient to increase blood-pressure. As strychnin increases the irritability of the cord somewhat, many of the normal functions of the cord are increased in activity. Furthermore, it stimulates the respiratory center, in normal doses, but large doses are followed by paralysis. It would seem, then, that when we give large doses, so frequently administered in pneumonia in a routine way, we may stimulate the heart, but do great damage to the respiratory center. In small doses it is invaluable in pneumonia, in acute myocarditis, although it has also been given in enormous doses here with apparent success, but it is especially valuable as a stimulant of the respiratory center—indeed, as a stimulant of the whole cord. On the other hand, its routine administration, especially to the degree of producing toxic effects, should not be encouraged, as it does not prevent the accident we now most fear and, moreover, produces deleterious effects. Elsner[9] most forcibly states the position in regard to the administration of nitroglycerin in a healthy heart; we already have lowered blood-pressure; why should we increase it, and bring it to or beyond the danger line? It should not be given, even in overfilling of the right ventricle, as it especially affects the splanchnic area.

The treatment of pneumonia with coexisting heart disease has been variously described. Some authors give digitalis in every case, others only for specific indications. It would seem that as in routine administration of digitalis in any heart disease this drug might do harm, as it does when administered indiscriminately. With the present advance which we owe to modern pharmacy, in giving us reliable glucosids, acting when given in proper doses, either hypodermically or intravenously, with certainty and promptly, the preparation of the heart for a possible breakdown, which takes at least two days, is no longer necessary. At least such has been my experience in the last three or four years. In chronic valvular disease in which I always gave digitalis formerly I now restrict its administration to those cases in which there is a probability of decompensation because of the additional work put on the heart. The conditions may be summed up as follows, such as have already had decomposition or are having it when pneumonia develops, and, furthermore, in those valvular lesions in which compensation is not complete. Therefore, in all valvular lesions, except aortic or mitral insufficiency in which there is complete compensation, it is not wise to take chances.

With diseases of the myocardium we find, on the whole, the most dangerous complicated form of pneumonia; Pässler's statistics show that in pneumonia with chronic myocarditis the mortality is 93 per cent. While I believe this to be an exaggerated statement, because of the small number of cases which are considered, it is, nevertheless, true that chronic myocarditis is the greatest menace to life in patients with pneumonia. But here, as well as in all other forms of myocardial diseases, the degree of danger lies in the degree of existing chronic myocardial insufficiency. Any patient who goes into an attack of pneumonia with abnormally low blood-pressure due to chronic myocardial insufficiency has little chance for recovery.

Whenever any manifestation of myocardial insufficiency develops it should be treated as an acute myocardial insufficiency. The results naturally vary with the form of myocardial disease and with the individual condition. In the fat heart little can be expected from digitalis or strophanthus when the myocardium is already weak or there also exists arteriosclerosis. In the heart of Bright's disease when, notwithstanding the existence of heart disease, the blood-pressure goes down, caffein should be given in large doses and digitalis as well. In arteriosclerosis the blood pressure is an infallible guide to therapy; when it sinks the ordinary remedies should be applied; when it remains high it is not wise to give vasodilators. Myocardial disease due to other conditions, as chronic respiratory troubles, malformations of the thorax, etc., should be treated as all other chronic myocardial insufficiencies, in addition to which, at times, it may be possible to employ causal therapy.

Pericarditis does harm in two ways, either producing myocardial insufficiency by extension to the myocardium, by the production of adhesive processes or—which is rare—by the presence of fluid in the pericardial sac. When the latter exists the fluid should be removed; otherwise, the myocardial insufficiency should be treated.

Fourth and Sycamore Streets.

ABSTRACT OF DISCUSSION

DR. DE LANCEY ROCHESTER, Buffalo: I regret that Dr. Forchheimer could not go into the details regarding the treatment of dilatation of the right heart, because that is one of the conditions that it is not uncommon in pneumonia; in fact, it is very common. It is one of the conditions in which venesection is particularly indicated. I can recall at present twelve cases of pneumonia with dilatation of the right heart, and in all of them I believe life was saved by doing a prompt venesection, withdrawing from 200 to 400 c.c. of blood. As illustrative of its value, I should like to report one case. This patient was 18 years old, and had had a progressive pneumonia involving one lobe after another, so that all the right lung and the upper lobe of the left as well as the pericardium were involved. The heart's apex was in the axillary line and the pulse was 180 or more, very irregular and small. The liver was two inches below the costal margin. There were present all the evidences of a dilated right heart. Flatness was complete on the right side, and it was feared that there might be fluid, and so the chest was aspirated in four directions, but nothing was found but solid lung. This patient was bled 250 c.c., and during the bleeding the respirations, which had been 66 to the minute, fell to 36; the pulse, which had been 180 and irregular and small, dropped to 120 and showed better tension. The heart, which had been in the axillary line moved to midway between the axillary and nipple lines in the fifth interspace and acted better. This patient's life was saved This illustrates one of the cases in which venesection was successful. It is a procedure which has gone into disrepute, but it should be used always when indicated.

DR. FRANK BILLINGS, Chicago: We all agree with Dr. Forchheimer that active measures are necessary when the cardiovascular syndrome develops; until that time, we are not all agreed as to what we should do with such patients. I think there is no disease in which rare judgment is so necessary not only in knowing what to give, but in knowing when not to give drugs. From my own experience I find that the longer I live and attempt to cure patients with pneumonia, the less I am inclined to give mixtures containing drugs until they are necessarily called for, and this is especially true in hospital work. The moment that cardiovascular symptoms appear, with the lowered blood pressure, with failing left heart, the time has then come for active work. I believe in the proper use of digitalis, but not as ordinarily given and by the mouth. With the hypodermic use of digitalis I have had a sad experience; it was with the active principles of the drug, and now I practically never use them. But I do use a preparation of the leaves themselves.

In an emergency, the intravenous use of digitalis gives good results. When used in that way it is not necessary to repeat the dose unless symptoms indicate. Four, six, ten, twelve doses may be necessary, and perhaps one dose, in some instances, will accomplish all that is necessary.

There are other remedies besides digitalis which increase the ordinary tone. Caffein is a good agent and camphor will readily raise the blood-pressure in cases of failing left hearts. I give one or two-grain doses in ordinary camphorated oil. Musk also will raise the blood-pressure. Strychnin and other drugs that are commonly used in failing left heart are absolutely valueless except to stimulate nerve centers; strychnin will not raise the blood-pressure 1 mm. I have used it over and over again. If that unfortunate condition occurs, dilatation of the right heart, I think that venesection is the one remedy to be applied and immediately, and it matters not whether the patient be plethoric or not.

The use of cold applications to the chest I have followed. In failing heart the applications of bandages about the extremities is sometimes of value. But whatever is used must be used with good judgment or more harm than good may result.

Finally, the watchful and vigilant care of patients afflicted with pneumonia without the use of drugs is the ideal treatment. Do not attempt to do good by any specific medication, but attempt to preserve the functions of the individual's body, and do not be nihilistic regarding the use of remedies. I think we may say that with proper management of the patient we may occasionally save patients who might otherwise die.

DR. C. F. HOOVER, Cleveland: I wish to call attention to the danger of accepting a measurement of blood-pressure as an equivalent for the mass movement of blood. The fact that a patient has a maximum blood-pressure equal to a column of mercury 140 mm. high, does not justify the deduction that the mass movement of blood is satisfactory. Patients with severe mitral stenosis. for instance, may have a great disturbance in the blood distribution of the body with marked asystole, and still have a normal arterial pressure. The sphygmomanometer is not a safe guide in estimating the mass movement of blood. The position of the right border of cardiac dulness, the size of the liver, the pulsations in the internal jugular vein and the duration of the pulse in relation to the maximum systolic blood-pressure are all factors which must be considered in estimating circulatory efficiency. To estimate the size of the right auricle by percussion is one of the nicest refinements of physical diagnosis, and yet this very point is one which must be determined to settle the question of therapy in pneumonia if we are to anticipate an advanced cardiac incompetency with a suitable therapy.

DR. JOHN H. MUSSER, Philadelphia: It is very important that we should remember in those cases of apparent cardiac failure, that such cardiac failure is the result often of pericardial effusion. Too often do we see these patients treated for heart failure, or acute dilatation of the heart in the course of pneumonia when by removing a few ounces of fluid from the pericardial sac the serious symptoms are relieved.

Of course Dr. Forchheimer will agree that the best treatment of the heart is that which is applied in the first period of the disease, as soon as the pneumococcus infection is recognized. Therefore, the results that are to follow will depend on such form of management. I am in sympathy and in accord with what Dr. Billings stated. In the majority of the cases I prefer to rely on fresh air, on judicious local treatment, on hydrotherapeutics, on regulation of the proper amount of food taken, and particularly on care that the patient is not overfed. I watch carefully for the phenomena so well pictured by Dr. Forchheimer, guarding against the possibility of the vasomotor syndrome by proper renal elimination. Attention to proper elimination is of the greatest importance in the management of the cases of pneumonia, looking toward the prevention of cardiac failure; in other words, looking toward the reduction of serious toxic symptoms that arise and have expression more particularly in the phenomena just pointed out. To keep down the amount of food is of the greatest importance in the management of pneumonia patients. Watch carefully the state of the intestinal tract. Tympany is a serious toxic symptom in pneumonia and its increase with defective elimination is a point that I depend on as suggestive of the occurrence of vasomotor failure. This can be prevented very largely. Colitis occurs with the pneumococcus affection, and this colitis is undoubtedly the cause of the development of tympanitis; the colitis plus the toxemia invites an intestinal paresis. Hence to prevent this colitis which gives rise to the tympany, it is well to observe carefully the diet, regulating judiciously the amount and kind of food taken, and washing out the bowels with normal salt solution. Basing treatment on the idea that cardiac symptoms are threatened when renal insufficiency appears, I begin very early the use of caffein; this is perhaps the only remedy I would begin with as a routine measure. In addition I rely on cocain when the conditions become more extreme.

In regard to right-sided dilatation of the heart I agree with Dr. Rochester as to the value of early venesection. One must remember that we must not place too much stress on the physical signs brought out by percussion and auscultation. I am not so much disturbed by the development of murmurs suggestive of dilatation as I am of the appearance of vasomotor phenomena. I am not alarmed when asked to see cases of old valvulitis with mitral regurgitation. When we observe a murmur over the right heart, or a murmur at the apex, there comes into play the safety valve action of the tricuspid; this was pointed out long ago by Guiteras and often bodes much good in these cases.

DR. ALEXANDER LAMBERT, New York: Eight years ago I became dissatisfied with the results of the treatment of pneumonia that I had been following; they were very unsatisfactory and I decided that when a large number of pneumonia cases came into the hospital, as at Bellevue Hospital, it would be well to compare the results of different treatments carried on simultaneously. In my division at Bellevue Hospital (there are four divisions), I gave up the use of alcohol and nitroglycerin and simply used those drugs by which we obtain a rise in blood-pressure. After three months, when each division had had from 125 to 137 patients each, I found that in those cases where alcohol and nitroglycerin has been used, the statistics were 10 per cent. higher in death rates in which the vasodilators had been used than were shown by those in which the drugs that raised the blood-pressure had been used. In other words, judging from about 500 patients affected with pneumonia, the death rate was improved 10 per cent. by camphor, caffein, digitalis and agents which raised the blood-pressure.

Dr. Theodore Potter, Indianapolis: The most remarkable phenomena occurring in lobar pneumonia are at the crisis and, in studying that crisis, it is made plain, as Dr. Forchheimer stated in his paper, that there is great danger to the heart, not from mechanical obstruction but from the toxemia. In dealing with this toxemia there are two chief things to help us; a rational comprehension of elimination in a natural way through the skin, kidneys and bowels, and an unlimited supply of fresh air to the lungs. After all, when these things are compared with drugs directed to the cardiovascular conditions, it seems to me they are far superior. Every one I think who has had to deal with pneumonia cases in an ordinary hospital has felt the great limitations under which he labors in the hospital ward. It is almost impossible in such hospitals to apply the rational fresh-air treatment in lobar pneumonia. Here, there are a large number of patients in the same ward; this is especially true in the large city hospitals. At times I have had to adopt certain expedients. I have taken patients into the delirium tremens room where the windows are kept open; here they could get the fresh-air treatment. But in private practice the problem confronts us, how to apply the fresh air treatment in a rational way. I am sure that everyone who sees such cases in his own practice or in consultation is confronted by it. I have got into the habit lately in teaching medical students of emphasizing the fact that the chief point in the whole matter of carrying out the fresh-air treatment, especially during the winter months it that there should be two rooms in the house for the treatment of such patients; that is practically the solution of the question. Time and again I have seen merely a crack of the window open; that is not real fresh-air treatment. The solution of this problem is in having a place for the patient and a place for the nurse. The nurse should have one room, and the patient another. This is the only way that the fresh-air treatment of these patients can be properly applied.

Dr. Frederick Forchheimer, Cincinnati: In making a diagnosis of congested or over-filled right heart, it is not necessary to prove by percussion, auscultation or inspection that the right heart is enlarged. The diagnosis of this condition can be made perfectly well by simply looking at the patient. It is almost impossible to err in regard to the existence of this form of heart trouble, or the existence of the Romberg-Pässler syndrome. In the Romberg-Pässler syndrome a vasomotor affection we have the addition of a profound anemia and a condition of collapse. In the other condition we find the opposite. We have fulness of the veins, congestion of the face, and all the evidence of dyspnea, an active dyspnea. There can be no mistake regarding the diagnosis, and one need not be so very particular about the direct examination of the right heart. In the treatment of this Romberg-Pässler syndrome, or vasomotor paralysis, I do not believe that digitalis is indicated, and for two reasons. In the first place it does not produce sufficient contraction of the splanchnic vessels to help in relieving the syndrome. In the second place if we increase the heart's activity by increasing the force of the systole, the result will be that the heart will force so much blood into the splanchnic area that it will be more embarrassed than before.

I do not believe we are going to gain much by the use of camphor, musk and other agents in this condition. I believe, however, that in cases of acute myocardial insufficiency either one of these remedies can be used with the greatest good to the patient. As to the question of blood pressure, I believe that Dr. Hoover is correct in what he has stated, but in conditions of splanchnic paralysis the blood-pressure tells the story; it shows that something extraordinary must have happened and this depends entirely on the localization of a mass of blood engorged in the splanchnic area. Those of us who have taken many blood-pressure observations have found that after the second or third day of a pneumonia the pressure is 100 or 102 mm.; that is a low pressure.

I have stated that, according to my belief, tympany is due to a vasomotor paralysis. That is why symptoms of tympany are always to be feared by the clinician.

We have all been using fresh air for a long time; in fact, v. Jürgensen recommended it in 1874 and possibly it was recommended even before that date. I have been using fresh air during the past thirty years in the treatment of pneumonia, and twenty-five years ago I published a paper on the subject. I think that of all the things recommended in the treatment of pneumonia fresh air is the most important. But there is no question regarding carrying out this plan of treatment in the hospitals; I think it can be carried out in the hospital even better than in private practice. All my patients in the hospital are treated by fresh air and simply by using a window tent or by keeping the windows wide open and the results are perfectly satisfactory.

I should like to make a statement in regard to the number of patients who have had this syndrome and whom I have treated. I have had a large number of such patients and I should say, without being mathematically correct, that about 50 per cent. were helped when the treatment was instituted early enough. Recently I saw a patient who had been suffering with this syndrome for twenty-four hours; I succeeded in raising the blood-pressure a little with adrenalin; the injection of caffein did not bring the blood-pressure up. A few hours later a second dose was given. I worked with that patient for some time but he finally died. If this patient had been treated early, and this is a very important part of the treatment, the result might have been different.

THE ACTION OF INTESTINAL ANTISEPTICS ON PEPTIC DIGESTION [*]

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It is generally conceded, both from experimental and clinical observation, that fermentation of the contents of the alimentary canal assumes pathologic importance in proportion to the degree of retardation of digestion. To prevent the development of fermentative changes it is customary to administer certain drugs, commonly called intestinal antiseptics, with the end in view of inhibiting the growth of the bacteria responsible for the abnormal condition. If it can be determined that the action of the digestive juices is still further impaired by drugs whose effects on the intestinal bacteria are at best problematical, then their use will be shown to be harmful. The object of this experimental inquiry was to determine, if possible, how far intestinal antiseptics interfere with the action of artificial gastric juice on protein matter.

We present the results obtained merely as a suggestion, for we fully appreciate the inherent difficulty of comparing experiments *in vitro* with processes occurring in the living animal body.

In reviewing the literature we find that Wolberg[1] in 1880 was the first to investigate this subject. He studied the action of various drugs and alkaloidal salts on the digestion of fibrin in a peptic juice made from a glycerin extract of the stomach of the ox. Fubini and Fiori[2] in 1881 determined that potassium iodid disturbed the peptonization of albumin in both artificial digestion and in animals. Extending the method of Wolberg, Dusterhoff[3] experimented with organic and inorganic iron preparations and found that the former produced a greater disturbance of digestion. The bismuth salts, especially the subnitrate, were shown by Israel to affect digestion in no essential way.

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[*] From the laboratory of experimental physiology of Jefferson Medical College.

[1] Wolberg: Arch. f. d. ges. Physiol. (Pflüger's), xxii, 291.

[2] Fubini and Fiori: Untersuch. z. Naturl. d. Mensch. u. d. Thiere (Moleschott's), 1881, xii, 462.

[3] Dusterhoff: Diss. Berlin, 1882.

Schütz,[4] employing the polariscopic method of Klikowicz[5] of estimating the amount of peptone after digestion of egg albumin *in vitro,* determined that alcohol in the proportion of 2 per cent. inhibited and in 15 per cent. entirely stopped peptic digestion; corresponding results were obtained with salicylic acid in the strength of 0.006 per cent. and 0.01 per cent. The method of Katz[6] appeals to us as the most scientific and accurate; in a series of experiments on the effect of many drugs on artificial digestion, Katz estimated the peptone as nitrogen by the Kjeldahl process, after precipitation and separation of the undigested albumin. His results are as follows: Morphin hydrochlorid and sulphonal (3.0 to 200 c.c. of fluid) inhibited the action of pepsin on albumin; atropin sulphate, strychnin nitrate, tincture of nux vomica, chloral hydrate, potassium arsenate, tincture of strophanthus and creosote (in small quantity) were without effect; quinin sulphate, bisulphate and hydrochlorid caused an increased formation of peptone.

In our research we have studied the action of ten of the commonly used intestinal antiseptics on the digestion of egg albumin by pepsin. Five series of experiments have been carried out. In one we used the process recommended by the U. S. Pharmacopeia, 1900, for the assay of pepsin; and in the others, a modification of this test for reasons stated below. In the U. S. Pharmacopeia test, 10 gm. of coagulated egg albumin, passed through a No. 40 sieve, are digested with 0.003 gm. of pepsin in 40 c.c. of a 0.3 per cent. solution of hydrochloric acid at a temperature of 52 C. for two and one-half hours. The albumin and artificial gastric juice are agitated by inverting the receptacle once every ten minutes. At the end of the required time, 50 c.c. of cold water are added and the whole poured into a sedimenting tube and allowed to stand for one-half hour; then the quantity of undigested albumin is read off in cubic centimeters or fractions thereof. The amount of undigested albumin in the tube should not be more than 1 c.c. with pepsin of standard strength. We had some difficulty in obtaining pepsin which would conform to this test; many of the pepsins purchased in the open market were below the required standard.

The quantity of each drug to be employed in the tests was determined as follows: According to Atwater, an adult ingests about 120 gm. of proteid in twenty-four hours; this divided into three parts would be 40 gm. for the average meal. The percentage of proteid in egg albumin is about 12.5 per cent. or one-eighth. The 40 gm. of proteid, estimated as moist egg albumin, is equivalent to 320 gm.; hence the 10 gm. of albumin used in the test represent approximately one-thirtieth of the proteid ingested at each meal. On this basis we added one-thirtieth of the average dose of each drug to each test.

In the first series, in order to obtain one-thirtieth of the dose, we mixed with the average dose of the drug enough sodium chlorid to make thirty grains and used one grain of the resulting powder to each test.

Our results were shown in Table 1.

It will be seen in this series that peptic digestion was much disturbed, the amount of sediment being in every case more than in the control. Moreover, it will be observed, the state of division of the sediment in the control is much finer than in the tubes containing the antiseptics, indicating a farther advance in the process of digestion.

It seemed to us that the results obtained by subjecting the pepsin in the above tests to the temperature of 52 C. instead of about 40 C., at which digestion proceeds in the stomach, could not be compared with what occurs during gastric digestion. Of course, as already intimated, we are well aware that it is not justifiable to draw any parallel between experiments *in vitro* and similar processes taking place *in vivo.* Nevertheless we wished to imitate as closely as possible the conditions present during gastric digestion. Accordingly we modified the U. S. Pharmacopeia test as follows:

TABLE 1.—SERIES 1, PROCESS U. S. P. 1900

Albumin disintegrated by being passed through a No. 40 brass sieve; digested for two and one-half hours.

	Sediment. c.c.	State of Division.
Control	13	Very fine.
Acid, benzoic	23	Fine.
Acid, boric	23	Moderately fine.
Acid, salicylic	25	Coarse.
Beta-naphthol	25	Coarse.
Creosote	26	Coarse.
Phenol	24	Coarse.
Resorcinol	22	Moderately fine.
Sodium phenolsulphon.	24	Moderately fine.
Sodium sulphite	25	Coarse.
Thymol	24	Moderately fine.

Instead of the 0.3 per cent. solution of hydrochloric acid we employed a 0.25 per cent. solution, which more closely corresponds to the percentage found in gastric juice; the amount of pepsin remained the same, as did also the quantity of egg albumin used in the previous test; the quantity of hydrochloric acid used was 50 c.c. Thinking that perhaps the sodium chlorid with which the drugs were diluted had some active influence on the test, we decided to eliminate that factor by dissolving the drugs in such a quantity of water that 5 c.c. of the solution would represent one-thirtieth of the average dose. The addition of the 5 c.c. of the drug solution would naturally lower the strength of the hydrochloric acid solution; we, therefore, added sufficient hydrochloric acid to compensate for that effect.

TABLE 2.—SERIES 2, PROCESS, MODIFIED U. S. P.

Albumin disintegrated by being passed through bolting cloth.

	Sediment. c.c.	State of Division.
Control	5.5	Moderately fine.
Acid, benzoic	8	Fine.
Acid, boric	6.5	Moderately fine.
Acid, salicylic	8	Moderately fine.
Beta-naphthol	7.5	Moderately fine.
Creosote	6.5	Coarse.
Phenol	6.5	Moderately fine.
Resorcinol	6	Moderately fine.
Sodium phenolsulphonate	6	Moderately fine.
Sodium sulphite	12.5	Coarse.
Thymol	7	Moderately fine.

TABLE 3.—SERIES 3. PROCESS AS IN NO. 2, EXCEPT AS FOLLOWS:

The albumin was disintegrated by being passed through a No. 20 horsehair sieve.

	Sediment. c.c.	State of Division.
Control	13	Fine.
Acid, benzoic	14	Moderately fine.
Acid, boric	13	Moderately fine.
Acid, salicylic	16	Moderately fine.
Beta-naphthol	16.5	Moderately fine.
Creosote	15	Moderately fine.
Phenol	14	Moderately fine.
Resorcinol	13.5	Moderately fine.
Sodium phenolsulphonate	14	Moderately fine.
Sodium sulphite	18.5	Coarse.
Thymol	18	Moderately fine.

The temperature at which the albumin was digested was 40 C. and digestion was allowed to proceed for four hours, the containers being agitated by inverting them once every ten minutes. At the expiration of the time the contents of the receptacles were poured into the sedimenting tubes and enough cold distilled water added to make 100 c.c. After sedimenting for one hour the cubic centimeters of undigested albumin were read off.

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[4] Schütz: Prag. med. Wchnschr., 1885, xx, 193.
[5] Virchow's Arch. f. path. Anat., 1885, cii, 360.
[6] Katz: Wien. med. Bl., 1889, xii, 19, 436, 453.

In this series the antiseptics have not interfered as much with the digestion of the albumin as in Series 1, although it is quite evident that they have had a retarding influence.

Comparison of Series 2 and 3 will show that the results correspond fairly well. The difference in the amount of albumin digested is probably due to the fact that a different brand of pepsin was used in each and the particles of albumin were much larger when passed through a No. 20 sieve than through bolting cloth, the coarser particles being more resistant to the action of the artificial gastric juice. In an average of the three series it will be noted that sodium sulphite was the most powerful in retarding digestion and that boric acid and resorcinol were the least active.

We do not believe that by the use of the U. S. Pharmacopeia process and modifications of it thus far employed in this study one can arrive at accurate conclusions either as to the digestive power of pepsin or to the effect which other substances may have on peptic digestion, even *in vitro.*

We, therefore, thought it advisable to resort to a different and more accurate method. This consisted in estimating the amount of peptone and allied products formed at the end of digestion by determining their nitrogen content according to the Kjeldahl method as recommended by Katz.[6]

The digestion of 10 gm. of coagulated egg albumin was performed as in Series 2. At the end of digestion the undigested albumin was precipitated by the addition of sodium chlorid to saturation to each bottle, followed by a few drops of acetic acid saturated with sodium chlorid. The solution of peptones was separated by filtration and its nitrogen determined as beforesaid by the Kjeldahl process.

The average of two series of experiments gave the following results shown in Table 4:

TABLE 4.—NITROGEN YIELDED BY PEPTONES *

	Quantity. Gm.	%
Control	0.01197	100
Acid, benzoic	0.0077	64
Acid, boric	0.00962	80
Acid, salicylic	0.00857	71
Beta-naphthol	0.00822	68
Creosote	0.00875	73
Phenol	0.0084	70
Sodium sulphite	0.00875	73
Thymol	0.00945	78

* Estimating control at 100 per cent.

CONCLUSIONS

1. Intestinal antiseptics interfere with peptic digestion *in vitro.*
2. Beta-naphthol, salicylic acid, sodium sulphite and thymol are the most active in retarding digestion.
3. Boric acid and resorcinol are the least active.
4. The uniformity in the results of our experiments would seem to warrant the inference that intestinal antiseptics interfere with digestion in the stomach and probably in the intestine.

1642 Pine Street.

A Model City.—Our national capital, the city of Washington, should be a model sanitary city, free from insanitary tenements and workshops, air pollution, water pollution, food pollution, etc., with a rate of death and a rate of illness so low as to arouse the attention of the world.

THE PARALYTIC COMPLICATIONS OF HERPES ZOSTER OF THE CEPHALIC EXTREMITY

A PRELIMINARY REPORT ON THE HERPETIC INFLAMMATIONS OF THE GENICULATE, GLOSSOPHARYNGEAL, VAGUS AND ACOUSTIC GANGLIA *

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Idiopathic or true herpes zoster is an acute infectious disease characterized by general symptoms; fever, headache and great prostration and a focal manifestation; an eruption of herpes zoster on the skin and mucous membranes.

The characteristic pathologic changes are found in the posterior spinal ganglia and in the Gasserian ganglion *(posterior poliomyelitis).* These structures are derivatives of the so-called neural ridge, and the ganglion cells having this origin belong to the so-called unipolar or spinal type. The geniculate ganglion, the ganglia of the glossopharyngeal and vagus nerves, as well as the auditory ganglia (the *ganglion* of *Scarpa* and the *ganglion spirale*) also take their origin from the neural ridge, and as such must be brought within the realm of the specific ganglionic inflammation of herpes zoster.

The affected ganglion is the seat of an hemorrhagic inflammation which gives rise to pains (herpetic neuralgia), objective sensory disturbances and an eruption of herpes zoster in the zone corresponding to the affected ganglion. Milder inflammatory changes may also be present in the ganglion above and below the chief or eruptive focus. I have studied the motor complications of this affection, and more especially the cranial nerve palsies and auditory symptoms which occur in the cephalic zona.

I have collected, including my present observations, reports of 158 cases of paralyses of various kinds in herpes zoster, a complete analysis of which will be published later. They are distributed as follows:

Motor oculi, 18 cases.
Trochlearis, 1 case.
Abducens, 5 cases.

All these ocular palsies were associated with herpes frontalis or herpes facialis.

Brachial palsies, 12 cases. Eight of these were of the upper-arm types and four were mixed, upper- and lower-arm types. These arm palsies all occurred in herpes zoster of the upper extremity.

Abdominal palsies, 2 cases. These were associated with herpes zoster of the trunk.

Facial palsies, 80 cases. In all of these, the eruption was confined to the cephalic extremity of the body as follows:

Herpes occipito-collaris, 43 cases.
Herpes facialis, 14 cases.
Herpes oticus, 19 cases.
Herpes facialis and herpes occipito-collaris combined, 1 case.
Herpes oticus and herpes occipito-collaris combined, 3 cases.

Auditory nerve complications were present in 30 of these cases. They varied in character from a simple diminution of hearing to a severe form of Ménière's syndrome.

The occurrence of herpetic inflammations in the glossopharyngeal and vagus ganglia is worthy of emphasis for the relation which they bear to the herpes pharyngis, herpes laryngis and herpes oticus.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

In some of these cases pneumogastric symptoms have been observed; such as bradycardia, hiccoughing, nausea and vomiting.

I, therefore, attribute to the zona of the cephalic extremity a special importance, because of the occurrence of facial palsy, deafness, symptoms of Ménière's syndrome and vagus symptoms.

These cranial nerve complications do not occur except in herpes zoster of the face, ear, pharynx, larynx and the head and neck. Therefore, these various clinical types should be regarded as constituting a definite clinical entity. I consider the zoster zones for the geniculate, glossopharyngeal, and vagus ganglia as capable of being differentiated (herpes zoster oticus, pharyngis et laryngis).

The clinical types are as follows: Herpes facialis, herpes oticus, herpes pharyngis, herpes laryngis, herpes occipito-collaris; with facial paralysis and auditory symptoms, alone or in combination.

The facial palsy in 50 cases occurred without auditory symptoms. In 30 cases of the total number (80) both facial and auditory symptoms were present. The acoustic symptoms may also occur without the facial paralysis. In some cases the auditory ganglia are alone the seat of the herpetic inflammation, giving rise to tinnitus aurium and deafness, and in some cases symptoms of Ménière's disease.

Rarely vagus symptoms may be present, hiccoughing, bradycardia and vomiting. The underlying pathologic condition in all of these types is a herpetic inflammation of cranial nerve ganglia.

112 West Fifty-fifth Street.

ABSTRACT OF DISCUSSION

DR. JAMES ALLEN PATTERSON, Colorado Springs, Colo.: The rarity of paralytic lesions is noticeable in the literature of ophthalmic herpes, and as I had a case last winter in which there was distinct paralysis of the external ocular muscles as well as of the pupil, I was particularly anxious to hear this paper. I want to remark in particular the infrequency of paralytic phenomena in ophthalmic herpes as seen by oculists.

DR. HOWELL T. PERSHING, Denver: Does Dr. Hunt regard the view that herpes follows specific inflammation as being confirmed, and does one attack of herpes protect the individual from a further attack?

DR. J. R. HUNT, New York: I regard the true herpes zoster as a specific infectious disease. It is a disease in which the lesion is situated in the ganglion, although one must also recognize neuritic herpes and zosteroid condition of the skin which resembles it.

Fatal Effects of Lowered Air Pressure Not Due to Lack of Oxygen.—In rarefied atmospheres such as are encountered at high elevations, it is not the scarcity of oxygen which produces the weakness and depression and the other symptoms which usually accompany mountain sickness, but rather the disturbance of the circulation in the lungs due to the purely mechanical effects of a lower barometeric pressure. A. Rosendahl (*Ztschr. f. Biol.*, 1909, lii, 16), has produced in rats and rabbits, by exposure to an atmosphere which contained an excess of oxygen, but which was reduced to a low barometric pressure artificially, symptoms analogous to those seen in mountain sickness in these animals. The animals soon recovered when transferred to an atmosphere of ordinary pressure which contained less than the ordinary quantity of oxygen and an excess of nitrogen. It was further found that rats and rabbits became dyspneic in an atmosphere containing mostly oxygen, if the air pressure was only slightly lowered. An increase of pressure above the normal was well endured in atmospheres of normal consistency and in those which contained a high percentage of nitrogen.

LICHEN PLANUS

A CONSIDERATION OF ITS ETIOLOGY AS ILLUSTRATED BY AN ACUTE CASE *

DOUGLASS W. MONTGOMERY, M.D.
AND
HARRY E. ALDERSON, M.D.
SAN FRANCISCO

We believe lichen planus to be a distinct disease, and we also believe it to be a constitutional disease with manifestations on the skin and mucous membranes.

Lichen planus almost always occurs in its chronic forms, and as such its constitutional symptoms are frequently so slight as to escape detection. In the acute cases, however, the general constitutional symptoms become salient and form an important part of the clinical picture, of which the following is an example:

HISTORY OF CASE

Patient.—An obese, pulpy-looking Mexican woman, aged 40, and engaged in general housework, entered the University of California Hospital, July 8, 1908, with a very itchy tormenting eruption. She said that before its appearance she had worked very hard for some time and that for several months she had not menstruated.

History.—Previous to this her menstruation had been normal, and she had enjoyed good health. Her present trouble came on about the middle of June, 1908, that is, about three weeks before entering the hospital. She said she suddenly began to feel very sick, nauseated, had feverish sensations alternating with chills, most marked at night, indefinite shifting pains, and great prostration. Coincidently with these symptoms there suddenly appeared all over the body a rash, which she said was like the present eruption, but much more itchy.

Examination.—When the patient entered the hospital she had a lichen planus eruption almost universal in distribution, but gradually becoming less profuse along the extremities, and entirely sparing the hands and feet. The buttocks were also free from eruption, and there was a free strip down the inner side of both upper extremities. The scalp was studded with papules and the rash on the face was confluent, the lower eyelids were swollen, and the conjunctivæ were so inflamed as almost to evert the lids. Typical papules could be best seen on the forearms, where they were scattered between the large rounded ones. They were small, angular, yellowish red, firm, flat-topped, waxy, glistening and in many instances covered with a thin, tightly adherent scale. A few were umbilicated. All of the papules on the face, however, and most of those on other parts of the skin, were large, rounded, prominent, firm bodies resembling in appearance the lesions in syphilis or leprosy, but differing in being intensely pruritic. These papules were indeed so firm as to give the impression of little tumors set in the skin, and their rounded prominent shape was so pronounced as to deserve the designation "obtusus," although as Brocq has remarked, this adjective is applied to another form of lichen planus.[1] At first glance, indeed, it looked as if the patient were afflicted with leprosy, but this resemblance was soon seen to be fallacious, as on minuter examination the differences were seen to be more marked than the similarities. To clinch the matter, however, the juice from some of the tubercles was stained for lepra bacilli, and none was found. As for syphilis, the eruption was altogether too slow in its evolution and involution, and too thickly strewn on the face, and besides it was intensely itchy. There was no history of syphilis, no mucous patches, and the superficial lymphatic nodules were not enlarged, as they would be in early constitutional syphilis. The patient's tongue was heavily coated, the breath was foul, the throat was sore, and there were whitish, sodden-looking patches on the tonsils, which were thought to be exudate from the intensely inflamed tonsils, and were certainly not characteristic of either syphilis or lichen. No lichen patches were found on any of the mucous membranes, in this respect following the rule when the eruption is acute and generalized.[2] The gastrointestinal tract was very sluggish. The liver was slightly enlarged, but not tender. There was no demonstrable enlargement of the spleen or of the lymphatic nodules. The right lobe of the thyroid was slightly enlarged. Dr. William G. Moore found no abnormality in the vagina or pelvis. The temperature and pulse were normal in the morning, but toward evening the temperature ran up to 38. The blood examination showed:

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* Read in the Section on Dermatology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Brocq, L.: Dermatologie pratique, ii, 198.

Hemoglobin	85
Erythrocytes	3,808,000
Leucocytes	7,000
Polynuclears	75
Large mononuclears	8
Small mononuclears	13
Eosinophiles	4

An examination made one month later showed practically the same proportions. The urine was dark yellow, turbid, and its specific gravity was 1,021. It was acid, contained no sugar, and showed a trace of albumen. There was an occasional hyaline and granular cast, a few red blood corpuscles, very many squamous epithelial cells, and many white cells.

Treatment and Course of Disease.—A soothing line of treatment was adopted, and she was given:

℞		gm. or c.c.	
Liquoris picis carbonis (B. P.)		2	m.xxx
Liquoris plumbi subacetatis		12	fl.ʒiii
Olei olivæ			
Liquoris calcis	āā	60	fl.℥ii

M. et sig.: Use externally.

℞		gm. or c.c.	
Magnesii carbonatis			
Bismuthi subnitratis	āā	20	ʒv
Tincturæ rhei		90	fl.℥iii
Aquæ menthæ piperitæ	ad	240	fl.℥viii

M. et sig.: A dessert spoonful after eating, three times daily.

In the first forty-eight hours she was given milk alone, and afterward other foods were slowly added. The general condition and skin slowly improved. At times, however, she had acute sore throat, headache, fleeting pains in the joints, malaise, violent conjunctivitis, erythema of the eyelids and face, and a marked extension of the papular eruption, resembling in these respects the case of Nicholas and Favre.[3] The temperature ran along between 36.2 and 37.4 until August 10, when it jumped up as will be noted later.

About July 31 her eyelids became swollen and very painful, her throat again became sore, and she complained greatly of shifting pains in the joints. The trouble in the eyes was relieved by boracic acid cold compresses, and drops of a 5 per cent. argyrol solution, and the pains in the joints were controlled by five-grain doses of aspirin given every three hours, and at the same time the other symptoms were relieved. This control of the symptoms by one of the salicylates, aspirin, is very interesting and will be referred to later. On Aug. 10, 1908, on Dr. Howard Morrow's suggestion, atoxyl 0.10 was given intravenously. The patient was rather languid all through the next day, and complained of general soreness in the lesions of the skin, and of frontal headache. On the following day there was decided malaise, and the general pains were rather severe, being most noticeable between the scapulæ. During these two days the temperature gradually ascended till it reached 38.5. On the third day after the atoxyl injection, the temperature dropped to normal, she felt quite well again, and there seemed to be some improvement in the skin. These injections were resumed on August 15, and from August 15 to August 24 she was given an injection of 0.15 atoxyl every second day, without producing any reaction. Although the atoxyl did not give any reaction yet the patient steadily continued to grow worse and the itchiness, especially of the eyelids, increased. The patient was now given:

℞		gm. or c.c.	
Hydrargyri chloridi corrosivi		0.06	gr.i
Syrupi sennæ			
Aquæ	āā	60	fl.℥ii

M. Sig.: A teaspoonful in a little water after food, t. i. d.

Under this mixture the patient slowly and steadily improved for one month when she complained of sore throat and increased itchiness of the face. The dose of corrosive sublimate was then raised from 0.002 to 0.005 and 0.6 of iodid of potash was added to the prescription.[4] The improvement that had set in on giving the corrosive sublimate continued. and no special effect was noted as following the addition of iodid of potash. This treatment was continued for about one month when papules over the glabella, above the eyebrows, and on the upper arms became markedly hyperkeratotic, each papule being crowned by a gray, hard, dry, tightly adherent, coruscated crust. At the same time she complained of sore throat and increased itchiness of the face. For this hyperkeratosis she was given an 8 per cent. ointment of salicylic acid. The active lesions steadily disappeared, and the hyperkeratosis improved, but now the subjective symptom of universal formication became very pronounced, and it was thought that arsenic might be beneficial. She was then given 0.12 doses of Fowler's solution three times a day for a week. The whole condition became suddenly worse, and she got a herpes labialis. She was put back on corrosive sublimate and iodid of potash.

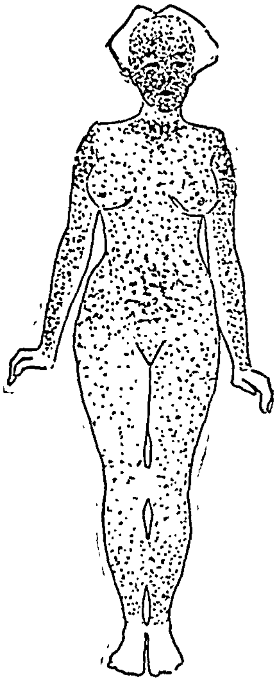

Fig. 1.

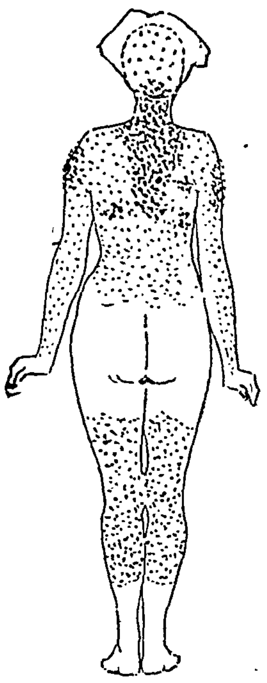

Fig. 2.

Figs. 1 and 2.—Distribution of lesions. Note free areas; feet, hands, inner surfaces of upper limbs, buttocks and upper part of thighs.

By Feb. 3, 1909, a pea-sized intensely itchy hypertrophic scar had developed in a biopsy wound. On Feb. 24, 1909, the iodid of potash was omitted from her prescription because of a profuse mucous discharge from the nose. The pigmented lesions were at this time slowly fading. The patient called again on March 22, because of a few acute very itchy lesions over the supraorbital ridges, on the chin, upper lips, cheeks and over the elbow tips. Her tongue was heavily coated, breath foul, gums tender, teeth "on edge," and she had diarrhea. She was evidently suffering from hydrargyrism, and the alimentary disturbance consequent on this was accentuated by her occupation as cook in a Mexican restaurant, and eating between meals. This lichen outburst was particularly interesting because it occurred while deeply under the influence of mercury. We concluded in fact that the mercury and the errors in diet, by causing irritation of the alimentary tract, were the cause of this outbreak. Consequently the mercury was dropped, and a mixture composed of carbonate of magnesia, subnitrate of bismuth and tincture of rhubarb was prescribed, under which the acute symptoms subsided.

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[2] Radcliffe-Crocker: Brit. Jour. Dermat., February, 1908, p. 47.

[3] Nicholas and Favre: Ann. de dermat. et de syph., July 1906, page 701. In a case reported by Dr. Howard Fox also (Jour. Cut. Dis., May 1908, p. 237) at the beginning of each attack of lichen ruber the patient generally felt weak and nauseated.

[4] This was in accordance with the recommendation given by Hardaway and Grindon (Cutaneous Therapeutics, p. 169).

Another biopsy was made at this visit of a lesion that had reached the pigmented depressed scarlike stage. This wound was dressed with collodion and cotton, and interesting to relate, the patient returned four days later with a beautiful bullous eruption surrounding the collodion dressing. We think it probable that the occurrence of the bullæ was a manifestation of the peculiar kind of irritability of the skin in these cases, and was of the same nature as the intercellular and intracellular edema and the subepithelial cleft so often observed in this disease.

It was about this time that, in conversation, Dr. H. R. Oliver mentioned that, in a case diagnosed as lichen planus by two well-known dermatologists, a Wassermann reaction positive for syphilis had been found. Dr. Oliver kindly consented to test our patient in the same way, and found her also positive for syphilis. This result caused us to review our facts carefully lest, in view of the success achieved with mercury and iodid of potash and the failure of arsenic, the presence of a few equivocal histologic features and also the difficulty often experienced in differentiating the eruption of lichen planus from some of the papular eruptions of syphilis, some should conclude that we have here to do with lues and not at all with lichen planus. That this patient may have acquired syphilis may be true. When her throat was intensely inflamed, in the early stages of her trouble, she had a white coating on her tonsils, and at one time she had a white patch on her lip. The tonsillar coating, however, was not at all characteristic of syphilis, and the lesion on the lip looked more like a cigarette burn or a herpes simplex than a mucous patch. Nevertheless scrapings from it were carefully searched for spirochetes, but none was found. Also it was noticed when making the atoxyl injections, that her veins were hard and brittle, and microscopically the arteries of the skin were thick-walled and had sleeve-like infiltrations which may have been due in part, at least, to syphilis. As for the eruption, however, that was another story. Although many of the individual papules resembled the papules of syphilis, yet the stormy intensely itchy nature of the attacks, associated with acute conjunctivitis and sore throat, and the long endurance of the eruption and uniform character of the lesions gave a picture entirely different from anything observed in syphilis. It is interesting also to note here that although the patient improved under bichlorid of mercury, yet as soon as the mercury began to salivate and so to irritate the alimentary canal new lichen papules began to appear. Microscopically also, as will be stated later, the infiltration of mononuclear cells resembling lymphocytes into the upper corium sharply circumscribed below, together with degeneration and absorption of collagen and elastin, and the subepidermal cleavage were changes just such as we would expect to find in lichen planus, and were not those of syphilis.[5]

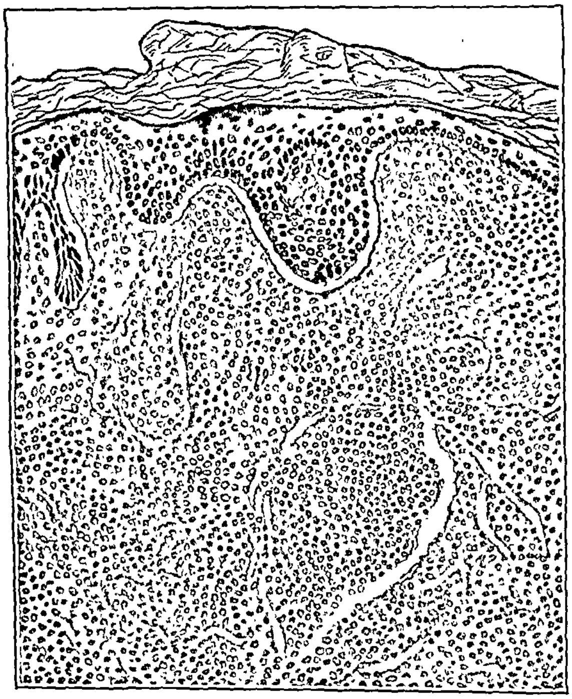

Fig. 3.—Microscopic view of cross-section of early lesion; this and the following illustrations are from drawings by Dr. A. W. Lee of the Medical Department of the University of California.

HISTOPATHOLOGY

EARLY LESION

About three weeks after the onset of the disease a small unscratched papule was removed from the right forearm under ethyl chlorid anesthesia locally. It was fixed in Müller's solution and formaldehyd, equal parts, hardened in alcohol, mounted in celloidin and stained in various ways. This lesion in many details corresponded with the findings of various investigators of lichen planus, but in some of its features it was somewhat atypical. Briefly, the following were to be observed:

Epidermis.—Stratum corneum: Hyperkeratosis with layers loosely connected. In places horny plugs were formed.

Stratum Lucidum: This was not demonstrable.

Stratum Granulosum: This was deficient, consisting in the main of but one or two layers of cells, but occasionally there was seen a small patch three to four cells deep. The keratohyalin granules were very deficient, and occasionally a clear nuclear space was seen surrounded by a faint zone of protoplasm. The nuclei varied decidedly in staining capacity, some being strongly basophilic and others only slightly so. This stratum had the appearance of being greatly stretched longitudinally.

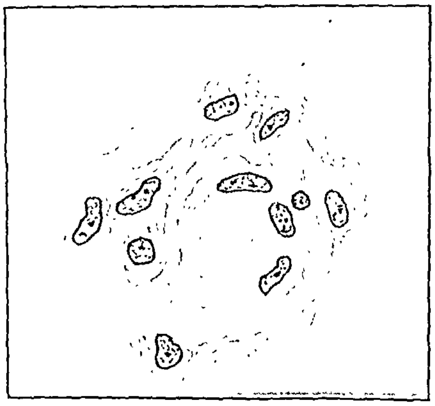

Fig. 4.—Giant cell, early lesion.

Stratum Spinosum: This varied in thickness, averaging four to ten layers. Toward one end of some of the sections, it was very thin and stretched longitudinally. Here also the rete pegs were flattened out. Toward the other end, there was hypertrophy and marked acanthosis. In places just over the papillæ, this stratum was very thin. In the main, the rete pegs were rather widely separated. There was intracellular and intercellular edema. Many of the nuclei were surrounded by a clear zone and occasionally there was seen nothing but a clear space surrounded by a faint zone of protoplasm with well-marked prickles. The prickles persisted throughout, although in places they appeared to be greatly stretched. The nuclei varied greatly in staining capacity. In the lower part of this stratum occasionally the intercellular edema was so great as to suggest commencing vesiculation. There were wandering cells in these intercellular spaces showing ameboid forms, adapting themselves to the tortuosity of the channels.

Stratum Germinativum: This presented two to four layers of cells in which the pigment was deep in color. Over the densest part of the deeper lesion and also where the edema was greatest, the pigment was absent[6].

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[5] Ehrman and Fick and also G. B. Dalla Favera (Monatsh. f. prakt. Dermat., April 1, 1909) have observed the absorption of elastic tissue in this disease.

[6] Ehrman and Fick (Histopathologie der Haut) note also this absence of pigment.

There was a thin clear line of cleavage between the basal layer and corium, which was bridged over here and there by irregular fibrils, basophilic in reaction.

Corium.—The papillæ, over the lesion, were greatly widened, but elsewhere some could be seen, narrowed and extending almost to the stratum granulosum. There was a dense cellular mass, well circumscribed below and extending up to the epidermis, from which it was separated in places by a narrow zone of basophilic, finely granular collagen, or by the line of cleavage already mentioned. The essential lesion was in the upper corium. At the periphery of this lesion, the cell mass sent out prolongations in thin zones; following the blood vessels a short distance. This cellular mass consisted of several types of infiltrating cells, which will be described in order.

1. The predominating type was mononuclear, round or oval, and as a rule, slightly larger than a red blood cell, but occasionally it was considerably larger. It resembled greatly a mononuclear leucocyte, and frequently could be seen in the lumen of a blood vessel. This type was often observed, assuming ameboid forms, and also it frequently presented appearances strongly suggestive of amitosis. The nucleus was vesicular and faintly basophilic, in some instances, barely staining at all. Seldom could the protoplasm be seen, but sometimes it was represented by a narrow zone slightly basophilic. At times this zone was acidophilic. Occasionally the nucleus was placed eccentrically and the protoplasm was increased. Sometimes the cell body showed prolongations which apparently fused with the adjacent cells.

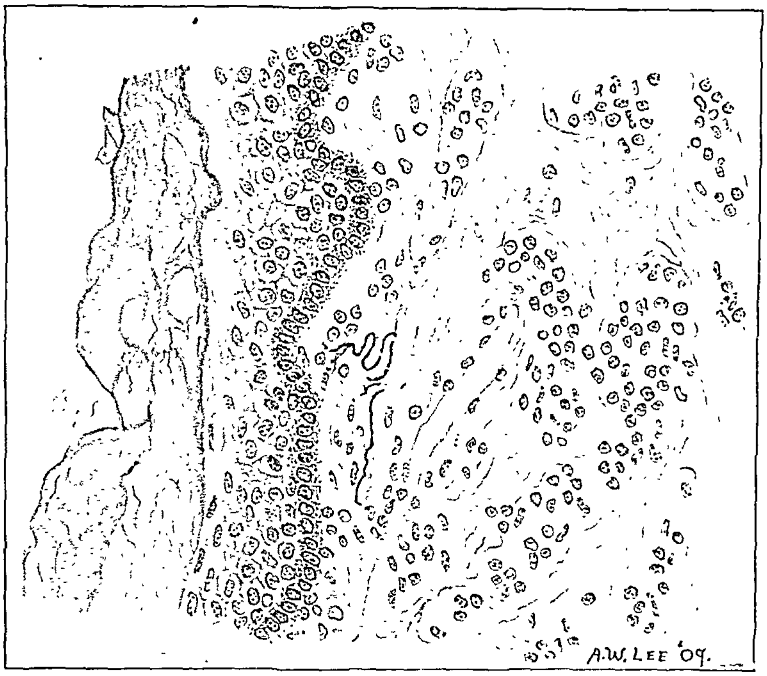

Fig. 5.—Microscopic view of cross-section of late lesion.

2. Furthermore there were smaller round cells with small, rather deeply staining nuclei, which were usually placed towards the periphery of the cell. There were no chromatin bodies in evidence, the nucleus presenting a homogeneous appearance. The protoplasm was usually acidophilic and occasionally very strongly so. This type also would be seen in some of the vessels. It often resembled morphologically the small tissue plasma cell. Occasionally two nuclei were seen, one at either pole of the cell.

3. Giant cells were seen with deeply staining nuclei, resembling in form those of connective tissue. These nuclei varied from three to fifteen or more in number in each cell. They were arranged peripherally toward one pole, and as a rule, within a narrow zone of the colloid protoplasm, but occasionally they were grouped in a bipolar manner. Two or three typical giant cells, and numerous incomplete forms were seen in each section.

4. There had evidently been some proliferation of connective tissue cells, for their nuclei were seen in increased numbers. They presented evidence of degeneration in that they were often very pale and often very deeply stained. Their protoplasm was usually basophilic, and corresponded in appearance with that seen in the giant cells.

5. Polymorphonuclear leucocytes were seen fairly often in small groups throughout the lesion, and also in the vessels.

The collagen was very edematous, and showed irregular areas of degeneration. Where the cellular mass was thickest, and particularly along a narrow zone directly beneath the basal layer, the collagen was represented by a degenerated homogeneous, basophilic, finely granular substance. Broken up blocks of basophilic collagen, in transverse section, could be seen here and there. Deeper in the lesion, opaque masses of basophilic collagen could be seen, resembling the degeneration seen in sarcoma. This type existed below this region along with large broken-up masses. This extensive degeneration of the connective tissue was a very interesting feature. The narrow zone of finely granular basophilic collagen, immediately beneath the epidermis, taken in connection with the cleft which occurred here, represented a line of lessened resistance. Bridging across the cleft at frequent intervals were tiny basophilic strands. These bridges were absent for some distance in places.

The elastic fibers had all degenerated along the "zone" above referred to, and only rarely could a few tiny fibrils be seen in a papilla. These fibers were all broken and in places absent, where the cellular mass was most dense and where the collagen had undergone marked degeneration. For the most part the remaining elastic fibers stained deeply, but occasionally they appeared very faintly. They seemed to terminate abruptly about three cell-breadths from the basal layer, at the border of the narrow granular zone above mentioned.

The blood vessels were usually dilated and in their lumina could be seen many red blood cells and mononuclear leucocytes, with occasional polymorphonuclears. The papillary vessels right up to the summits of the papillæ were dilated and full. They all showed thickened walls and greatly swollen endothelium, and were all surrounded by the infiltration and proliferating cells already described. Often the perivascular infiltration was very dense.

The coil glands showed some increase in nuclei, which were deeply basophilic. Usually the lumen was not apparent, but occasionally it could be seen dilated. Portions of their ducts showed no dilatation.

LATE LESION

Five months after the onset of the disease, a pigmented atrophic lesion was removed from the arm, under ethyl chlorid anesthesia locally, fixed and hardened in alcohol, mounted in celloidin and stained in various ways.

The following was to be observed:

The stratum corneum showed hyperkeratosis, and the stratum lucidum was well defined in some sections. The stratum granulosum was deficient, consisting usually of from one to three rows, but occasionally in a small area showing an increase of four to six cells. The entire epidermis was more nearly normal and did not show edema. The rete pegs were still somewhat flattened, and the stratum spinosum was not quite as thick as the normal. Occasionally a little pigment was seen in the stratum spinosum, but pigment in the main was limited to the two or three rows of cells constituting the stratum germinativum, where it was abundant and not absent at any point.

In the corium it could be seen that the edema had subsided, the infiltration had become dispersed in streaks and small foci, and there had been some regeneration of collagen. The infiltration extended in streaks off into the periphery, following the vessels, follicles and ducts. These cells were also grouped into small masses, surrounded by collagen fibers, and situated principally in the upper corium. This infiltration now consisted very largely of typical plasma cells, and many small round cells. Proliferated connective tissue nuclei were present in increased numbers.

There was no line of cleavage at the epidermis border, and the collagen throughout had to a great extent regenerated. The papillæ were still widened and flattened in places.

The elastic fibers showed the same degeneration seen in the early lesion. Deep in the corium some large normally staining fibers were present. There were also some few detached fibers in the papillæ. Elsewhere they were represented by a homogeneous, somewhat granular substance, which took the acid dye feebly.

The collagen, as well as the elastic tissue, was absent in the infiltrated foci.

The blood vessels were not dilated, and were not much in evidence. They showed thickened walls, swollen endothelium, and occasionally could be seen with complete obliteration of their lumen.

The coil glands showed no special abnormality. Their ducts could be occasionally observed slightly dilated.

Very few now believe in the infectious nature of lichen planus; even in those rare instances in which the disease occurs in several members of the same family the malady is attributed to some other cause, such as predisposition.[8] Many observers think the disease of nervous origin, because it occurs in nervous individuals, and because the eruption frequently appears in streaks, seemingly following along nerve tracts. This streaking, however, may be due to another cause. In fact there are many features of lichen pointing directly to its being a general disease with the eruption as one of its symptoms, and the acute cases are the ones that throw most light on this view, as the symptoms are more accentuated. In the first place the skin eruption of lichen may occur on any part of the cutaneous surface, not infrequently in the same patient either at the same time or at different times in widely separated localities. Furthermore, the eruption of lichen often appears on the mucous membranes as well as on the skin, or it may even occur on the mucous membranes alone.[9]

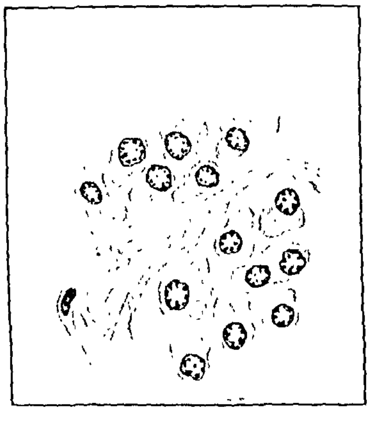

Fig. 6.—Plasma cells, late lesion.

As another evidence of the implication of the whole body in the disease process there is now the well-authenticated fact that the eruption is apt to break out on the site of any unusual irritation. That is to say, the whole skin in lichen subjects is in a state of irritability, and reacts in producing lichen eruption when the right kind of irritation supervenes. This applies probably to the entire mucous membranes as well as to the skin. In this connection we may consider the peculiar susceptibility of lichen subjects to pneumonia as noted by Schütz. Furthermore, he enumerates a great number of changes in the blood circulatory apparatus as being coincident with lichen planus and mentions that Lereddc found overfilling of the blood vessels of the cutis in making a microscopic examination of the sound skin in a lichen patient.[10] The nervous system also often shows a high state of irritability, and it is a frequent observation that these patients are nervous, high-strung and sleepless. It is difficult to imagine anything but a toxin producing these results. The sudden stormy nature of the attacks in the acute cases also looks like the work of a toxin, acting much in the same way as the ferments producing the urticarias. We can imagine such a toxin only as flowing in the blood stream. This is a conclusion also reached by Fordyce.[11] Turning now to the microscopic anatomy of the lichen papule, we find that the earliest lesions are dilatation of the small blood vessels, the outpouring of serum into the affected tissues, and an abnormally stimulated proliferation of these tissues. If this hypothetical toxin is in the blood it will show its greatest effects in that part of an organ where the supply of blood is richest. This is just what we do find in the skin, where the most decided lesions are found in the papillary body, which, as the nourisher of the overlying epithelial layers, is particularly full of blood.[12] The most likely place for the production of this toxin is, of course, the alimentary canal, supplied, as it is, with the complicated ferments of the human being himself, and also with countless numbers of ferments belonging to invading bacteria. The sore throat, the heavily coated tongue, the sluggish bowels and the rheumatic pains of such patients, as the case in hand, also point to the alimentary canal as the seat of the disturbance. In the chronic cases the alimentary disturbance is too slight to be clinically appreciable, but the success achieved by such antifermentative drugs as arsenic, bichlorid of mercury[13] and the salicylates, salol (phenyl salicylate[14]), salicin,[15] in both acute and chronic cases, is a further weighty argument in support of the theory that the disease is a toxemia produced by some ferment in the alimentary canal.

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ABSTRACT OF DISCUSSION

Dr. D. W. Montgomery, San Francisco: That lichen planus is a constitutional disease there is no doubt in my mind. This also is the conclusion reached by Engman in a paper which will shortly be published, and the proofsheets of which he showed me. The generalization of the eruption, its pruritic character and the internal distress it gives rise to, is greater than could be explained by regarding the disease as being one of the skin alone. The distress of the itching is much more acute than that of scabies or any of the parasitic diseases of the skin. And besides, the patient is "bothered" internally as well as externally.

Another point is the striking results obtained by the internal administration of drugs, such as the bichlorid of mercury, salicin, aspirin and salol and, in some cases, arsenic; and this would lead one to suppose that these drugs act as eliminants of toxins, or that they destroyed something that produced toxins. The results of such treatment are all in favor of this being a constitutional disease. The same therapeutic effects are not so frequently observed in the more chronic, slower forms of the disease, because there is not enough toxin to produce these acute symptoms. Sometimes there is extensive lichen without itching, which shows that the patient does not react pruritically to the toxin, but does react papularily.

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[8] Veiel, Fritz: Arch. f. Dermat. u. Syph., December, 1908, p. 383.

[9] Dubreuilh, W.: Ann. de Dermat. et de Syph., February, 1906, p. 129.

[10] Schütz especially mentions the complication of pneumonia and gives the literature: Beiträge zur Kenntniss des Lichen ruber, Arch. f. Dermat. u. Syph., xli, 253.

[11] Fordyce: Jour. Cutan. Dis., February, 1899.

[12] See remarks by G. B. Dalla Favera (Monatsh. f. prakt. Dermat., April 1, 1909).

[13] Charles J. White (Jour. Cutan. Dis., November 1908) says that to vanquish the old disease lichen planus he makes use of the old drug, mercury, with great success, and attributes the result probably to the stimulating effect of this metal on the nutrition of cells.

[14] After two weeks of ineffective treatment with arsenic. Hartzel found that salicylate of soda did well, especially allaying the severe itching. He also found that on giving salol on account of rheumatic pains in the knees, the cutaneous symptoms were relieved. Am. Med. Jour., July 20, 1907, p. 225.

[15] Radcliffe-Crocker (Brit. Jour. Dermat., February, 1908, p. 47, advises salicin in lichen planus of the acute type.

Dr. John A. Fordyce, New York City: This paper recalled a case that I reported to the American Dermatological Association ten years ago, one of universal lichen planus, with death. In that case there were profound constitutional symptoms, with fever and chills and successive outbreaks of the eruption. The autopsy showed marked changes in the heart muscles, in the blood vessels and in the adrenals. There was marked pigmentation of the skin, which was almost black at the sites of eruption, and it occurred to me that it was possibly the involvement of the adrenal bodies that led to this pronounced pigmentation. The involvement of the mouth and vagina spoke in favor of the constitutional nature of the disease. The resemblance of this affection to syphilis and the fact that it yields at times to mercurials suggest that it may be due to a spirochete or at least to some organism of that nature. Another interesting point in connection with lichen planus is the fact that the lymphatic nodes are sometimes enlarged. I have frequently noticed this involvement in cases of lichen planus of the chest and abdomen.

Dr. Louis A. Duhring, Philadelphia: A number of points occur to me in connection with this subject, and to a few of these I wish to allude. The class of cases to which this belongs is familiar to me, and I recall one case referred to me by Dr. Tyson which was almost identical with the one described by Drs. Montgomery and Alderson. Judging from my clinical experience and observation rather than from what I have read, there are two distinct clinical types of cases which occur under the head of lichen planus. From the photograph shown, as well as from the description, I think that there could be no mistake about the diagnosis in this case. In one of the types of this disease the lesions assume a sluggish, chronic character. more or less gradually attacking certain regions or localities by preference. This type of lichen planus is well known; better far than that just described by the writers. In the first, chronic type the disease continues a slow course and behaves differently, and is also amenable to a different form of local treatment from the acute type. The lesions are usually angular and flattish, instead of acuminate or rounded, as in the acute variety.

The second type, of which the case just reported is an illustration, is the acute form. The eruption appears generally suddenly or rapidly, spreads slowly or quickly, and may be almost universal, if not entirely so. The pruritus is often intense, the lesions may not be at all flattened, and are apt to be acuminate, occurring for the most part over a large area. In addition to the pruritus, there are marked general symptoms. with great nervous excitation or depression. The nervous system is always at fault in these cases of generalized or diffuse lichen planus. In the treatment of this variety arsenic has usually signally failed to benefit, and has been distinctly inappropriate in many instances. In the case I have in mind, arsenic was not at all tolerated, as the stomach and digestive tract were much involved through depressed nerve force. After the condition of the stomach was improved by rest, hygienic and other measures, the arsenic was tolerated and may have aided in the recovery. I do not think it at all likely to confound this second form with syphilis, although the eruption may look something like it. Still, I have never seen any cases of this kind that could be confounded with syphilis. I desire to direct attention to this second acute generalized form of lichen planus, because I do not think it is so well understood as it should be. In the case I referred to, the gentlemen who saw the case before me did not seem to make the diagnosis and were disposed to regard the eruption as syphilitic.

Dr. Ernest Dwight Chipman, San Francisco: It certainly seems that there is a definite resemblance in many instances between lichen planus and syphilis. I would like to record briefly a case that came under my observation several months ago; a case which was touched on by Dr. Alderson in his paper as having been pronounced lichen planus by two dermatologists, and in which the Wassermann reaction was subsequently obtained. The patient was a robust Italian, aged 35, who gave absolutely no venereal history. He had a generalized eruption, partially macular, partially papular, with intense pruritus. Here and there were seen evidences of lichenification, involving particularly the axillæ and the flexor surfaces of the elbows. The patient was seen by a confrère who made the diagnosis of lichen planus. I could not agree with him, although the eruption was suggestive of that affection. A Wassermann test was made and was strongly positive, and an examination of the contents of several of the papules showed the presence of spirochetes.

Dr. George Pernet, London, Eng.: I have had several cases of acute lichen planus, and I agree that they are among the most troublesome cases that the dermatologist can have to deal with, especially on account of the tremendous pruritus and the depression of the nervous system. With regard to the distribution of the eruption in this case, I was interested to observe that on the anterior surfaces of the forearms it terminated rather abruptly. I have seen this in several cases, not only of acute lichen planus, but also in the stage of syphilis in which the eruption is not completely developed. In acute lichen planus it corresponds with the nerve distribution. In one case at the University Hospital the palms of the hands were severely involved, with marked swelling and hyperkeratosis. In the treatment, there is no doubt that salicin has almost a specific action in these cases. In acute or subacute lichen planus I think that arsenic in any form is contraindicated; in fact, in all skin eruptions of the acute or subacute type I have found that arsenic, which is so commonly prescribed in skin affections by men not conversant with dermatology, aggravates these cases very much indeed.

The appearance of the plasma cells in this case raise the interesting point that some of these acute conditions do lead to plasma cell formation. I have noticed in acute lupus erythematosus of sudden onset the presence of plasma cells in some of the sections.

Dr. Philip Kilroy, Springfield, Mass.: Apropos of the possibility of this affection being of syphilitic origin, as suggested by its pathology, I have had two indubitable cases of syphilis in which there was intense itching. I do not think there is any dermatosis that may not itch, and itch severely.

Dr. Harry E. Alderson, San Francisco: Of course, we considered the possibility of this being a case of lichen planus engrafted on a syphilitic basis. The finding of the positive Wassermann reaction, and certain rather atypical appearances in the histologic features seemed to point that way, but clinically there was no doubt about the diagnosis of the case. Every one will acknowledge that when the clinical evidence is sufficiently strong, it will outweigh the evidence given by the microscope. Of course, a careful search was made for the spirochetes with the dark-field condenser and by smear methods, and had they been present they would doubtless have been found. In the case mentioned by Dr. Chipman I was not aware that the spirochetes had been found.

Milk and Pasteurization.—M. J. Rosenau, in *Annals of Medical Practice*, states that harm has been done by the misleading use of the term "pasteurized milk." Popularly, this has been construed to mean a superior quality of milk in the sense that antiseptic surgery is a great advance on the old-time methods. "Pasteurized milk" really means heated milk and is not necessarily synonymous with "clean milk," "good milk," or "pure milk." The particular object of the heating is to destroy the harmful bacteria. In order to correct this misconception concerning pasteurized milk, it would be better to discontinue the use of the term and substitute therefor the name, "heated milk," stating the degree of heat and time of exposure on each bottle, as well as the date on which the milk was heated.

BROWN-TAIL MOTH DERMATITIS

REPORT OF A CASE [*]

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BROOKLYN

THE BROWN-TAIL MOTH

The brown-tail moth or *Euproctis chrysorrhœa* was one of the first insects destructive to fruit-trees to be described by entomologists. The moth is a native of Europe and is common in all parts, except the extreme north. It is said that it first invaded this country in 1892, infesting a small territory in the vicinity of Somerville and Cambridge, Mass., the method of introduction being the importation of some roses from Holland by a Somerville florist.[1]

It was not until 1897, however, that any scientific investigations were made concerning the insect in this country. At this date the Massachusetts State Board of Agriculture pursued a series of investigations to discover the insect causing the destruction of vegetation in and about the suburbs of Boston and proved the brown-tail moth to be the pest responsible for the trouble. The gypsy moth commission, which was at this time actively engaged in the destruction of the gypsy moth, another pest, helped to limit the spread of the brown-tail moth also; but in 1900, when, owing to lack of appropriation, this commission was forced to discontinue its work, the moth marched rapidly onward in its destruction, traveling northward through New England into Canada.[2]

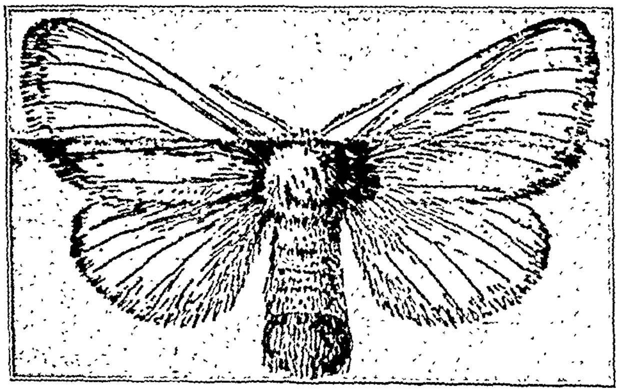

Fig. 1.—Female brown-tail moth.

The brown-tail moth is an insect which feeds principally on the foliage of fruit trees. Its average size at full growth is about one and one-half inches in length. The head is a light brown color mottled with areas of a darker brown with reddish-brown hair scattered over the surface. The body is almost black in color, with many fine lusterless, orange or silvery gray spots scattered over it. Long, finely white branching hairs arise from the upper side of the lateral tubercles. The female is almost snow-white. There is a tuft of thick brown hair on the tail of the moth, most marked on the female. The hairs are brittle and easily detached. Both male and female are free flyers and strongly attracted by light.

The moth lays three or four hundred small round eggs thickly covered with brown hairs which are dislodged from the abdomen of the moth and adhere to the eggs. The eggs are laid in July and are generally deposited on the under surface of the leaves of fruit and shade trees, forming a mass about three-quarters of an inch in length and one-quarter of an inch wide. They are hatched in about a month and the young caterpillars, forming colonies, spent the rest of the season spinning their winter webs. At the beginning of cold weather they disappear within their nests, closing the holes behind them. Here they remain only partly grown until early spring, when they come forth and grow rapidly, eating the buds and young blossoms from the trees as they appear.

The caterpillar reaches its full growth some time in June. It is about two inches in length, light brown in color with a white stripe on either side. It spins a loose cocoon and goes into the pupa stage and the moths emerge about the middle of July.[3]

BROWN-TAIL MOTH DERMATITIS

Description.—The dermatitis produced by the brown-tail moth is of two types, mild or limited and severe or extensive. In the mild form the lesions appear first as erythematous macules, few in number and situated on the face, neck and arms, sometimes spreading to the chest and back. The lesions are characterized by itching of a varying degree, depending on the extent of the eruption, which at times is almost unbearable. The macule soon becomes urticarial in character, raised above the surface, firm in consistency and disappears on pressure. The wheals are about the size of a pea, discrete as a rule and remain from a few hours to a few days. The severe type of eruption is characterized by a much more intense inflammation of the skin, a confluency of the lesions and an increase in the intensity of all the symptoms. In exceptional cases eczema is superimposed on the dermatitis and the condition becomes proportionally serious, with thickening of the skin, exfoliation and fissuring in the joints. In prolonged and severe cases the general health is sometimes seriously affected by the loss of sleep and appetite and the disturbing pruritus.[4]

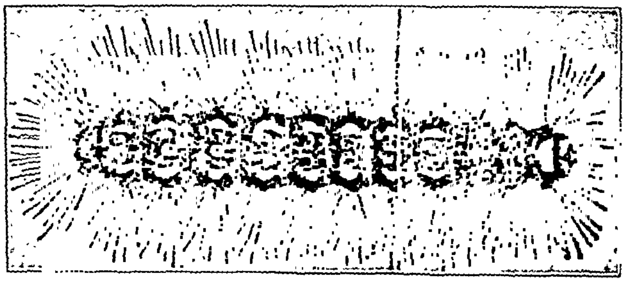

Fig. 2.—Full-grown caterpillar of brown-tail moth.

Etiology.—The lesions are produced by the tiny barbed hairs which grow on the caterpillar. The hairs are few in number during the early life of the caterpillar, but become more numerous as it reaches its full growth. These nettling hairs are straight, slender, needle-pointed rods having three rows of recurrent barbs, which average from four to five millimeters in length. The hairs are found on the moth and also in the structure of the cocoon, so that contact with the insect during any of its stages is liable to produce the disease. The hairs retain their irritating properties for a long time and the dermatitis has been caused by the handling of cocoons several years old. In the mild cases of poisoning there is generally a history of the removal of a caterpillar preceding the eruption, while the dermatitis of severe form seems to be contracted by the prolonged irritation of the skin from the hairs which become lodged in the clothing from the moths or cocoons.[5]

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[*] Read in the Section on Dermatology of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Meeks: Boston Med. and Surg. Jour., 1901, cxliv, 657.

[2] Fifty-second Ann. Rep. Sec. Massachusetts State Board of Agric., 1904; Ann. Rep. Sec. Agric., Nova Scotia, 1908.

[3] State Board Agric. Massachusetts: Nature Leaflet, No. 26, April 2, 1908.

[4] White: Boston Med. and Surg. Jour., 1901, cxliv, 599; Towle: Boston Med. and Surg. Jour., Jan. 19, 1905.

Pathology.—It was originally supposed that the irritation was purely a mechanical one caused by the inflammation under the skin of the peculiar barbed nettling hairs, but Dr. Tyzzer of Boston has practically proved by a most interesting series of experiments that the process is a chemical one. He has demonstrated that when the nettling hairs are mixed with a drop of blood the rouleaux of red blood corpuscles break down. The corpuscles become coarsely crenated; the crenations are then changed into slender spines and finally the corpuscles become spherical. The process does not, however, go to hemolysis. Further experiments show that the irritating properties of the hairs are destroyed when subjected to a dry heat of 115 C. and that they also fail to react with the red blood corpuscles, although the structure of the hairs is not destroyed even when heated to 150 C.

Prognosis.—The attack of dermatitis produced by the moth lasts from a few days to a week in the mild cases, but the severe form often lasts for six or seven weeks. The general health is not affected except in severe cases. Attacks recur whenever exposure to the poison takes place.

Treatment.—The affection responds readily to mild soothing antipruritic lotions or salves, except in the severe cases, when more persistent treatment of stronger remedies is sometimes required.

REPORT OF CASE

During the early fall of 1908 there was brought to my notice about sixty-odd cases of this disease occurring in the Annapolis Valley, Nova Scotia. The patients all gave a similar history as to the manner of contracting the disease and the course of the trouble. Most of the cases were of a moderately severe type and were contracted from the moth or the handling of cocoons. The following is the history of a severe case:

Patient.—R. W., aged 17, was a Canadian by birth and agricultural student by occupation. The boy's older brother had recurrent attacks of eczema from infancy until 5 years old, but had had no recurrence since and was now 20 years old. The father had had a number of attacks of ivy poisoning. The family history was otherwise negative. The patient had always enjoyed good health, but had thin, tender skin with a tendency to seborrheic dermatitis. Two years before the present illness he had a severe seborrhea of the scalp, losing a considerable amount of hair. The condition improved readily under treatment and he had since been free from trouble.

Present Illness.—This began in the summer of 1908, while the patient was engaged in picking cocoons from the fruit trees. The boy was first troubled with an itching of the arms and face. Shortly afterward he noticed small red spots appear on the same locations. The spots, he said, were not elevated at first, but soon became papular. The itching increased and the lesions extended to the neck, body, thighs, nates and legs. The itching became intolerable so that he was unable to sleep at night. He would often put on his clothes and walk for miles in the middle of the night. He applied home remedies without relief and his condition became steadily worse. When he presented himself to me for treatment his whole body was involved. The dermatitis was eczematous in character; the skin was intensely inflamed, hot, dry, harsh and thickened; the flexor surfaces were fissured and painful, and on removing the clothing a shower of fine exfoliating scales would drop to the floor. The patient's nervous system was greatly impaired from loss of sleep and persistent pruritus. He had lost some weight and his mucous membranes were pale and anemic.

Treatment.—The boy immediately discontinued his work. His underclothing was boiled thoroughly to prevent any irritation from hairs lodged therein. He was put to bed and wrapped in cloths saturated in sweet oil to which had been added 2 per cent. of phenol. The itching stopped almost immediately and the patient had a good night's sleep. In one week's time the exfoliation had ceased, the skin was more soft and pliable, less red and inflamed and the tenderness and itching had disappeared. The patient was now given zinc oxid ointment containing phenol and menthol. This was continued for four weeks with an occasional bran or soda bath when the skin had regained its normal condition and the patient felt perfectly well. He returned to his employment with instructions to be careful not to come in contact with the moth in any of its stages and has since been free from any trouble.

Very little reference has been made in the medical literature regarding the brown-tail moth. Dr. J. C. White,[4] in 1901, first reported a number of cases of dermatitis produced by a caterpillar. The type of eruption and the history of the disease was similar in all cases. Dr. Meeks[1] at this time asserted that the eruption described by Dr. White was due to the hairs of the brown-tail moth. Dr. Harvey P. Towle,[4] in 1905, gave an excellent account of the history of the moth and the eruption produced by it. Most of the cases he described, however, were of the mild type. Dr. Towle was convinced from his investigations that the irritation is a mechanical one due to the barbed nettling hairs.

The article[5] read by Dr. Tyzzer of Boston before the Dermatological Congress in 1907, besides giving a valuable description of the life history of the moth, proves without doubt that the irritation is a chemical one due to some poisonous substance contained within the hair.

ABSTRACT OF DISCUSSION

Dr. Clarence M. Casselberry, Boston: Some years ago we had this plague in Boston, and most of the work that has been done on this subject has come from New England, so that we are naturally interested to hear the experience of others. I know that the devastations of these moths extended as far north as Canada and that they proved a terrible pest. Dr. Potter emphasized the fact that this dermatitis affected more particularly those who handled the cocoon. That may possibly be so, but it seemed to me that during the epidemic in Boston no one was exempt; people on the street who had never touched a cocoon became infected.

Dr. William A. Pusey, Chicago: Dr. Potter has done the section a distinct service in bringing this subject before us. It is the first paper we have ever had on this subject. Two or three years ago we did not know what this form of dermatitis was. In the West we have thus far been exempt from it, but some of our Boston friends are prophesying that this brown-tailed pest will soon cross the Alleghanies, and we are at least glad to be forewarned.

Dr. Alfred Potter, Brooklyn: I did not mean to give source of the infection. The severe cases are the result of constant irritation and the hairs from the moth and cocoon which become lodged in the clothing produce this prolonged irritation, whereas the caterpillars are brushed away as soon as they are noticed, and the infection is, therefore apt to be less severe.
the impression that it was the cocoon only that was the

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[5] Tyzzer: Tr. Sixth Internat. Dermat. Cong., New York, 1907, i. 169.

IODODERMA BULLOSUM HÆMORRHAGICUM*

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Though Jarisch[1] asserts that the pemphigoid eruption occurs not infrequently from iodin and Thiberge[2] speaks of it as not very uncommon, both the recorded cases and every-day experience show it to be rare. Most instances have been seen in patients affected with renal or cardiac disease, or both; and the connection between the two conditions is apparent when we remember that iodin is chiefly and rapidly excreted by the kidneys. Most of the cases, also, have been rapidly fatal, the iodic intoxication, in combination with the visceral lesions, leading to speedy death. Thus in Wolf's case[3] a patient affected with both cardiac and renal disease took 30 grains of potassium iodid daily; for some time there was a very abundant bullous eruption, and the patient died on the eight day. Polland[4] had a patient affected with chronic nephritis, who took 1 gram of sodium iodid daily for ten days. A bullous eruption appeared on the face, neck, and hands; death occurred in a few days; and the autopsy showed the presence of bullous lesions on the gastrointestinal mucosæ. That the drug has an injurious effect on the vessel walls is shown by the rather frequent occurrence of iodic purpura.

A hemorrhagic bullous eruption necessarily betokens a systemic reaction of the intensest kind to the drug. Its rarity is evidenced by the fact that I have been able to find only three recorded cases.

CASE 1.—Reported by Morrow.[5] The patient, a man, aged 50, had taken about 200 grains of iodid of potassium in three days when a pustulo-bullous eruption developed on the face. The iodid was continued for ten days, till 900 grains had been taken. Sanguineous bullæ appeared on the face, hands and forearms. There was great prostration, stupor and involuntary evacuation of urine, this latter being acid, 1010, and containing 10 to 15 per cent. of albumin, a few pus and blood cells, but no casts. There was mitral insufficiency. Improvement of the skin eruption took place under carbolized petrolatum for twenty-six days; the general condition was unchanged; ten days later there were involuntary evacuations, and death occurred from edema of the lungs. Autopsy showed dilatation and enlargement of the left heart, mitral insufficiency, atheroma of the aorta, edema of the lungs, and chronic granular nephritis. The skin eruption reached its height five days after the iodid was discontinued.

CASE 2.—Reported by Hallopeau and Lebret.[6] This case had been presented to the *Société de dermatologie et de syphiligraphie* by Du Castel in 1896, 1899 and 1901 for hemorrhagic efflorescences on the limbs following the administration of iodid of potassium; the patient was a hereditary syphilitic. On August 7, 1903, for a recrudescence of his trouble, he was given 45 grains of iodid; the next day hemorrhagic bullæ developed on his hands. While the further history of the patient is not given, he presumably recovered from the attack. There is a cast of the eruption in the Baretta museum.

CASE 3.—Reported by Russell.[7] A man of 68, suffering from chronic rheumatism, was given iodin to the amount of 15 grains in three days. There appeared a large bullous eruption, especially on the face, the blebs containing a bloody fluid. The oral mucosa showed the same lesions, most of which ulcerated. Death occurred on the tenth day from "pneumonia and inanition." This patient had had only very small doses of iodid of potassium in syrup of the iodid of iron; yet by the third day of the medication he had coryza, conjunctivitis, hemorrhagic bullæ on the face, scalp, neck, breast, arms and legs, some as large as a quarter of a dollar, blebs and ulcerations of the lids, nares and mouth, etc.

To these I add a fourth case, seen in the service of Dr. Evans, of the City Hospital.

CASE 4.—*Patient.*—Bernard T., aged 45, admitted to Ward 2, City Hospital, New York, Aug. 18, 1898, was moderately alcoholic; had typhoid fever twenty years before admission; syphilis eight years before admission; he said he had had twelve attacks of "malaria" in the last eight years, accompanied by some jaundice; for the last ten years he had had some dyspnea and precordial pain on exertion. Three months before admission he began to feel weak, and lost his appetite; had headache, and jaundice.

Examination.—On admission the patient was found to have a pulse of 72, temperature 100, respirations 34, blood pressure 100; he was moderately jaundiced, and somewhat apathetic; no rigidity, pupils normal; lungs clear; heart showed a systolic murmur at the apex and over the aorta. The abdomen was soft, containing no masses; the liver not enlarged; the spleen not palpable; no edema: knee-jerks normal. Urine: 1022, alkaline, and contained hyaline and granular casts. Red blood cells, 5,100,000; white blood count, 11,700. The diagnosis was not certain, but inclined toward uremia.

Course of Disease.—The apathy gradually increased, and by September 8 the patient was semiconscious only. There appeared to be some left facial paralysis; and this, with the gradually increasing somnolence, the presence of suspicious scars on various parts of the skin, and the patient's history on admission, led to the suspicion of the presence of a gummatous brain affection, and on October 24 he was put on the iodid of potassium in doses of 100 grains a day. On the 25th, after he had taken his first 100 grains, a few small "blood blisters" appeared on the left hand and on the left side of the neck. There was also some conjunctivitis. By the 29th the blisters on the neck were retrogressing, and there was a marked iodin acne of the face. Small hemorrhagic vesicles appeared on the backs of both hands and forearms, and these increased in size and number rapidly. By October 20, there being no improvement in the patient's condition, the iodid was stopped; he had then taken some 600 grains altogether; and at that time photographs were taken from which the accompanying illustrations were made. The patient was quite somnolent, but could be roused; he had involuntary evacuations; and besides the lesions on the backs of the hands to be described, he had a few bloody vesicles on the neck and on the legs. On the backs of both hands were a number of variously sized and shaped tense bullæ; most of them were over the second phalangeal joints of the fingers. The smallest and most recent were pin-head to pea-sized acuminate vesicles, purplish in color, and with a distinct erythematous areola. The larger and older ones formed tense hemispherical or elongated bullæ an inch or more in size. They were of a peculiar purplish red color, especially at their bases, and with a whitish or milky aspect at their tops, evidently due to the epidermis. Puncture of the bullæ evacuated a non-coagulating blood-like fluid, which under the microscope showed the presence of red and white blood cells. There were no eosinophiles in this fluid; and the chemical test for iodin in it was negative. During the next few days these bullæ increased very much in size and became confluent; new ones appeared, and finally the entire backs of the hands were covered with immense confluent sanguineous blebs. Some of these ruptured, leaving extensive excoriated and readily bleeding surfaces behind; and others became infected and purulent. Toward the end the entire backs of the hands and forearms were one large raw surface. A few fairly large bullæ of precisely similar nature appeared on the face and legs. By November 7 the stupor deepened, and on November 10 the patient died comatose. It is worthy of note that there was not a single bulla or vesicle on the palms, and that, while there were a very few hemorrhagic bullæ on other parts of the skin, as noted above, the entire brunt of the dermal explosion was on the backs of the hands and the forearms.

Autopsy.—This showed many lesions of the internal organs: in fact, the patient was in the condition of many of those who come to spend their last hours in the great charity hospital. The immediate cause of death, as reported by the pathologist, was edema of the lungs, though the house record says nothing of this. The essential disease of which the patient died was syphilitic cirrhosis of the liver; but besides this he had hypertrophy of the left ventricle; dilated mitral ring with regurgitation; fatty degeneration of the heart muscle; emphysema and terminal edema of the lungs; chronic interstitial splenitis; atrophy of the suprarenals; chronic degenerative nephritis; chronic interstitial pancreatitis; enlarged abdominal lymphatic glands; chronic peritoneal and pericardial adhesions, and smooth atrophy of the larynx; not to mention a number of less important changes and degenerations. In spite of the official postmortem designation of the liver disease as the cause of death, the medical men who observed the patient during his last illness were of the opinion that the patient died of uremia.

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* Read in the Section on Dermatology of the American Medical Association at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Hautkrankheiten, 1900, p. 126.
[2] La Pratique dermatologique, II, 484.
[3] Berl. klin. Wchnschr., quoted in Lancet, Oct. 23, 1886.
[4] Monatsh. f. prakt. Dermat., 1905, xl., 288
[5] Morrow: Drug Eruptions, William Wood & Co., 1887, p. 129.
[6] Hallopeau and Lebret: Ann. de dermat. et de syph., 1903, p. 826.
[7] Russell: Med. Rec., Aug. 12, 1903, p. 207.

Iodin, as is well known, is one of the most rapidly absorbed and excreted of medicaments. All the mucosæ take it up very quickly; and so does the skin under proper conditions, as Welander[8] and Hirschfeld and Pollio[9] have shown. Lang[10] has demonstrated iodin in the blood from one to ten minutes after its ingestion, and a little later in the saliva, and still later in urine, gall and milk. In one hour it has disappeared from the blood; in twenty-four hours it has almost gone from the secretions, though a little of it may remain for weeks, to be slowly excreted by the kidneys. Any serious obstacle, therefore, to the rapid passage of the drug through the organism must lead to its accumulation in the tissue fluids.

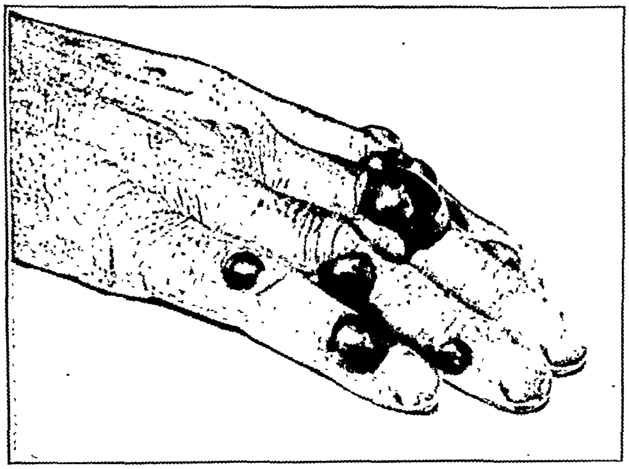

Fig. 1.—Author's case of iododerma bullosum hæmorrhagicum. Photographed three weeks before death.

It is generally held that the effects of the iodid medication, therapeutic and toxic, are due to the free iodin that is liberated in the blood from the various compounds employed. The exact manner in which the change occurs is still unsettled; but it seems probable that the theory of Binz[11] is the correct one; that in the presence of oxygen in the blood and carbonic acid in the tissues a salt such as potassium iodid is transformed into potassium carbonate and iodin is set free. At all events, free iodin is demonstrably present in the blood and acts as an irritant to the cells with which it comes in contact, exactly as it does to the dermal and mucosal cells when applied externally. Sajous[12] holds that the *iodin is taken up by the leucocytes and irritates the intima of the vessels*, causing their contraction and thus increasing blood pressure. This does not, however, to my mind, satisfactorily explain the marked vascular symptoms of acute iodism; and I am more inclined to agree with Thin,[13] who recognizes a distinctly disorganizing *effect of the iodin on the epithelia of the blood vessels*. The various dermic iodic reactions, the acne with its limited edema and congestion, the pemphigus with its effusion of serum and formed blood elements, the purpura with its extravasation of blood, the congestion and hypersecretion of the various mucosæ, the hemorrhages from the internal organs, etc., are all explainable in the same way.

The main avenue of iodin excretion being the kidneys, organs with a capillary circulation perhaps the most extensive and complicated in the body, and the free iodin itself having a directly deleterious influence on the small vessels themselves, it is not strange that the renal system should be an early sufferer from the iodin poisoning. I have made it a practice for a long time past to have regular urinalyses made in patients undergoing the iodid treatment, and I have noted the fact that in most cases, even in young and otherwise healthy individuals, there were signs of renal irritation at times. Patients without a trace of nephritis previously showed albumin in varying amount and hyaline casts at times. In fact, I think it desirable to keep track of the urine when administering an intensive iodin course, and to decrease or stop the exhibition of the drug when the excretion shows that the renal functions are being seriously interfered with. I am afraid also that I have seen a number of cases of permanent damage to the kidneys that I have been unable to ascribe to anything but the iodin medication.

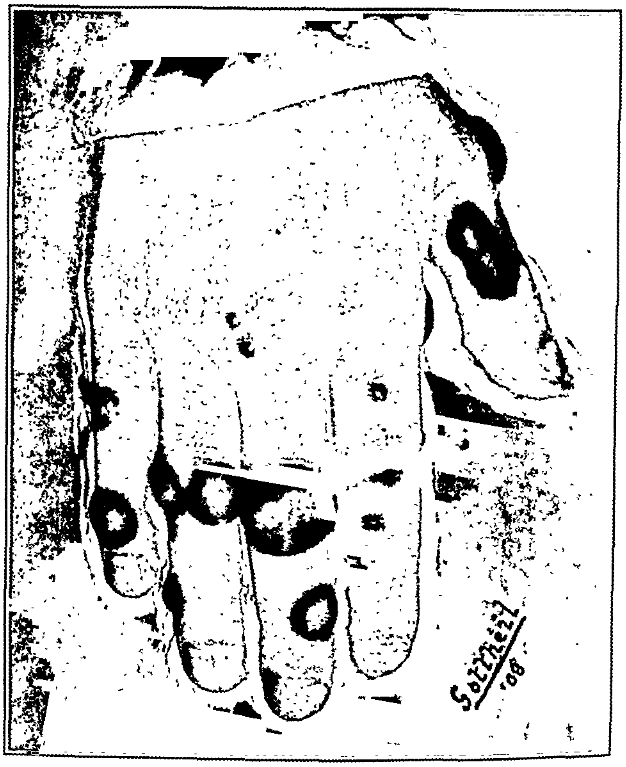

Fig. 2.—Cast, taken three weeks before death.

If the healthy kidney is liable to be injured by iodin the drug has naturally a still more deleterious effect when that organ is already damaged. Here there is a true vicious circle; the damaged emunctory prevents the normally rapid excretion of the drug, so that it is kept in prolonged contact with the tissues; and the irritant drug still further injures the excretory organ. The intimate relationship of iodism and chronic nephritis has long been recognized, and has been insisted on by many writers, among whom Duckworth asserts that iodin is dangerous in these cases, George Johnson notes the frequency of severe iodism in Bright's cases, and Stewart says that there is abundant proof that the more kidney elimination is hampered the greater the danger of iodism. Ehlers, as the result of his experimental work, comes to similar conclusions. The great majority of cases of severe iodism, the cases with bullous and hemorrhagic eruptions, have occurred in patients suffering from renal insufficiency.

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[8] Welander: Arch. f. Dermat. u. Syph., July, 1901, p. 63.
[9] Hirschfeld and Pollio: Brit. Jour. Dermat., 1905, p. 163.
[10] Lang: Vorlesungen über Syphilis, p. 532.
[11] Binz: [illegible], v, 485.
[12] Sajous: The Internal Secretions and the Principles of Medicine, 1907, ii, 1160.
[13] Thin: Med.-Chir. Tr., lxii, 199.

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ABSTRACT OF DISCUSSION

DR. F. C. KNOWLES, Philadelphia: During the past two years I have had the opportunity of seeing at the Pennsylvania Hospital two cases of simple purpura caused by the internal use of the iodids. The cause of the eruption was proved by the fact that, after the drug was discontinued and the eruption had disappeared, it reappeared after the use of small doses.

DR. GEORGE PERNET, London, Eng.: I agree with Dr. Gottheil that bullous eruptions after the administration of the iodids are rare. I cannot recall any case of the hemorrhagic type like the one he described. Potassium iodid is frequently given in much too large doses, and without any reference to the state of the kidneys. Of course, potassium iodid is of itself a diuretic, and even small doses may at times do harm. Certainly some of the heroic doses are really not indicated.

DR. WILLIAM A. PUSEY, Chicago: During the past year I have had a fatal case of the same sort, and a more desperate picture of disease I have never seen. The patient was admitted to my service at the Cook County Hospital without diagnosis, but my interne, who had seen one or two similar cases during the previous month, made the diagnosis. The patient was a woman who had taken moderate doses of potassium iodid—so far as we could determine, from 7½ to 10 grains three times a day. When admitted, she presented hemorrhagic bullæ which would become blackish in color and flaccid. Then the base of the ulcer would become gangrenous, and from the sides of the ulcer a small bullous collar three or four inches in diameter would develop. Iodin was recovered from the patient's urine. She lived six or seven days after I saw her, and about ten days after the first history of the eruption. Dr. Charles J. White of Boston has reported an almost identical case.

Recently I was asked to make a diagnosis in a case in which the diagnosis of congenital syphilis had been made. This patient, a child, had hypertrophic lesions, and syphilis could be readily eliminated because of the distribution of the lesions. There were no lesions about the mouth nor buttocks. The eruption was distinctly different from that of syphilis, and there had been large ulcerative lesions, as shown by the scars. In that case the child, a nursing baby, had received the iodin through the mother's milk. In this case also, iodin was recovered from the urine. The child died in a few days with bronchopneumonia but really from the iodism.

DR. W. S. GOTTHEIL, New York City: In the City Hospital in New York, which is the great venereal center for this part of the country, the tradition still holds that it is necessary to give enormous doses of iodin, in some instances from 750 to 800 grains daily, and we think we get good results from this. In one case I gave 1,000 grains daily, and when I was interne I can recall a case of gumma of the brain in which as high as 1,200 grains daily were given. I would simply emphasize the advisability of keeping close watch on the urine while giving potassium iodid, especially if the dosage is large.

THE WET DRESSING IN SURGERY [*]

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CHICAGO

In our eagerness to avail ourselves of the many new and sometimes very promising announcements in surgical progress it is well not to discard too lightly older methods and principles founded on long-established and successful usage. Into the field of treatment in recent years the hyperemia of Bier and the vaccine therapy of Wright have entered as active participants for our favor in the care of infectious processes. So prominent a position have they occupied that frequently other methods have been completely overshadowed, to the serious neglect and injury of the patient. With no desire to detract from all the demonstrated and promised virtues of these newer methods of treatment, I do wish to preserve the wet dressing from even the momentary neglect that threatens it and to place it in the proper rank to which its broad range of usefulness and long record of success entitle it.[1]

Of course, any method of treatment will suffer undeserved censure when ignorantly or improperly used. Surgical measures are most efficient in the hands of a surgeon, a knowledge of surgical conditions and processes necessarily forming the basis of treatment. The automatic dressing has not yet appeared.

Little that is new can be said in support of so well known a measure; but, in view of its importance and the absence of any recent comprehensive review of the subject, it appears particularly apropos to present it now on its own merits and in relation to other measures that its present adherents may be even more firm in their faith and its future usefulness greatly extended. Continued experience with surgical material convinces me that it is not so generally employed as it should be.

DEFINITION

By the wet dressing is meant the simple form of surgical dressing consisting of plain sterile absorbent gauze, wrung out of sterile water or physiologic salt solution, covered with an impervious tissue, as paraffin paper, oil silk or gutta percha tissue, and held in place by a bandage. The gauze is usually wrung out of warm water and applied in several layers over the affected part, and is then covered with the impervious tissue, which extends beyond the margins of the gauze, so that when the bandage is applied the moisture in the gauze can not evaporate and the dressing will be as wet the day after as the day it was applied. The gauze is usually wrung as dry as possible by the ordinary means in the dressing room. When thus applied to a secreting wound it very readily absorbs the secretion, a property wholly lacking in a saturated dressing. Powders are unnecessary, nor need various aromatic and odious preparations be applied. Plain sterile water or physiologic salt solution is preferable to antiseptic solutions for moistening the gauze.

ILLUSTRATION OF USES

In Lacerated and Contused Wounds.—These wounds are of various degrees, from the crush of the boy's finger in the cogs of his "Irish Mail" to the loss of a limb in a railway accident. Taking the finger for an example, the tip is lacerated, the nail may be lost and the bone broken. With surgical cleanliness the hopeful parts are laid together, possibly stitches placed for better control of the fragments, and the whole put up in a wet dressing. Within the next twenty-four hours, when the dressings are removed, the parts not too severely crushed have regained much of their color, while the necrotic portions soon become manifest. Every living bit of tissue has a chance to live and grow, and the facility with which the dressing is removed is a revelation.

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[*] From the surgical department of Rush Medical College, in affiliation with the University of Chicago.

[1] Since preparing this paper two interesting complementary articles on allied subjects have appeared in recent journals. One is by H. G. Wells on "The Resistance of the Human Body to Cancer," in THE JOURNAL A. M. A., May 29, 1909; the other is by Simon Flexner entitled "Natural Resistance to Infectious Diseases and its Reinforcement," Popular Sci. Monthly, July, 1909.

The finger is again similarly dressed and redressed till the last slough has separated and the epithelial covering is complete. The same dressing is equally applicable to and indicated in the crushed limb or similar wounds occurring elsewhere in the body. In wounds of deep tissues and organs, where dressings in general are either not directly applicable or are not desirable, the use of the wet dressing is also equally limited by the same restrictions. As a matter of fact, these deep wounds are under the influence of the natural heat and moisture of the tissues, though frequently lacking in facilities for relief of irritants and tension.

In Local Infections.—The common infections of the hand serve as useful illustrations of its application in pyogenic infections. These include the various classes of panaritia, or felons, palmar infections—intra- and extra-thecal—and the lesions of bones and joints. Suitable operative or mechanical measures having been instituted, the best local application is the wet dressing. Take, for instance, the simple painful paronychia, or ungual panaritium—the so-called "run-around" of the nail—frequently resulting from an infected hangnail. Pus is commonly in evidence, but the hard and dry skin clinging firmly to the nail keeps up the pressure and the symptoms; or, the pus may be discharging somewhat around the nail, but periodically drying up and clogging its own exit, causing the exacerbation of symptoms. The wet dressing applied to this finger in the one instance softens the tissues around the nail so that the pus escapes, while in the other it keeps the parts moist so that occlusion does not occur—in either case favoring the healing and relieving the symptoms. Necessary operative measures should be employed when indicated. What has been said of the hand applies with equal force and pertinency to the foot and to infections in all other equally accessible parts of the body, varying the technic according to local conditions.

Wounds in General.—In general, the wet dressing is indicated in the treatment of all open wounds or tissues deprived of their normal epithelial covering. Infected wounds of the subcutaneous or deeper tissues when incised become open wounds and are treated as such with the necessary modifications for drainage. It exerts a distinct and favorable influence on the processes of inflammation, frequently limiting and occasionally completely controlling local pyogenic processes without drainage. Here, however, is the greatest danger in this, as in other measures, that it will be used exclusively, instead of an adjunct, as it is designed to be. Aseptic areas deprived of their proper skin covering, as in incomplete plastic operations or similar surgical procedures, are best protected by this dressing. It is equally well adapted to the treatment of infected areas with suppurating or discharging wounds, as in many forms of ulcer regardless of type or origin, though not unmindful of collateral surgical and specific measures variously indicated. It is not indicated in aseptic surgical wounds where the tissues are completely covered with skin, the proper protection of the soft tissues.

MODE OF ACTION AND SPECIAL FEATURES

Its therapeutic efficiency depends on its physical features, which will be considered in detail in connection with its method of producing results in the various surgical conditions to the treatment of which it is best adapted.

Its Absorbing Capacity.—The removal of excessive or irritating secretions from a wound must be an attribute of a good dressing. Naturally, dry gauze will absorb more fluid than already partially saturated material. The practical difference, however, is not so great, as experiment shows that the wet gauze well wrung out absorbs at least three-fourths as much fluid as the dry. One ounce of dry gauze will absorb four ounces of water. When this is wrung tightly in the hands it will weigh two ounces and will absorb three ounces more of water, showing just three-fourths the absorbing capacity of the dry gauze. Under compression in an ordinary dressing the limit of absorption is somewhat reduced in both.

The important fact is that the wet dressing continues gradually to absorb to saturation, while in the dry one the secretion, unless excessive, commonly becomes inspissated and impervious a short distance from the wound, thus effectually preventing further absorption by the gauze outside the area of dried pus and blood. On the removal of a properly adapted wet dressing all the secretion comes away with the dressing, and the wound is left clear of fluid débris. Maltreated wounds and ulcers covered with various medicaments and secretions become clean with a few dressings, when the actual condition of affairs first becomes apparent. A scab never forms under a wet dressing, and one already present is soon loosened and the fluid allowed to escape. It is a prompt and ideal method of cleaning a large ulcer preparatory to skin grafting.

Heat and Moisture.—These are the most important physical factors in biology. Without moisture cell growth is impossible, while a temperature near that of the body is necessary for best development. Next to the skin itself, the wet dressing furnishes the ideal condition for cell growth. The temperature of the wet dressing, whether put on warm or cold, soon remains near that of the tissues with which it is in contact, the impervious covering preventing evaporation and dissipation of the heat acquired. A scab is not formed and the tissues are always moist with serum or the isotonic salt solution, further conditions favoring maximum growth of granulations and epithelium. Owing to this condition, mechanical drainage can be reduced to a minimum or dispensed with entirely, as the edges of the wound do not readily adhere after incision and the slight pressure of retained secretions easily opens it. The ease and comfort with which this dressing can be removed from a raw surface or inflamed region are in themselves no small blessings. It requires no tedious and anxious soaking to remove, nor does it bring away such large portions of new and precious epithelium and granulations as are lost in the removal of the dry dressing.

A refinement in its application may be introduced here that seems to be the limit of conservation of these tissues. Narrow strips of gutta percha tissue are laid directly on the granulations and new epidermis in gridiron fashion, or at right angles to each other, till the parts are just sufficiently covered to prevent the wet gauze as it is usually applied from actually touching them. The strips of rubber tissue are commonly one-fourth of an inch wide and long enough to cross the area, the object being to prevent the tissues entering the meshes of the gauze and being torn with every removal. The narrow strips are to be used instead of one large piece covering the whole area, as in the former good drainage of all secretions is maintained from the margins of the many strips, while retention is the rule with the single piece. With this refinement all the other elements of the wet dressing, the wet gauze and the external impervious covering, remain the same. In routine work this special feature is often neglected with little difference in results, as it is but a minor factor in the process, though in some chronic and obstinate cases it decisively turns the tide toward success.

To heat and moisture are the special virtues of the wet dressing chiefly due. Their mode of action deserves further consideration. The growth and repair of tissues are fundamental functions; they are part of the phenomenon of life, and to their maintenance proper nourishment and environment are the most essential factors. The dressing most nearly furnishing these essentials is the one of choice. Nourishment for the tissues comes from the blood and is principally in the form of nutritive lymph or serum. No artificial or other fluids can equal these for the purpose, and the best that can be said of any such fluids in or on the surface of the tissues is that they are bland or they do no harm. Thus, from the standpoint of nourishment, local applications have no practical value in surgery, their proper sphere being the improvement of environment.

The local lesion may result from various forms of tissue insults, mechanical, chemical, bacterial, and others. The local treatment consists in removing the aggressive factors and providing the best possible environment for the living tissues in their efforts at repair and resistance against further injury. The lesions from which the aggressive factors can be completely and directly removed are the simplest to care for, prompt growth and repair of the remaining living tissue being the rule. If the wound be closed the skin conserves the best physical condition for growth in the nutritive lymph. In the open wound this protection is lacking. The lymph is present, but desiccation soon renders it inert and destroys many cells in the exposed area. These elements eventually form a scab and prevent further destruction, cicatrization progressing successfully beneath. From various causes the scab is frequently incomplete or broken and some of the tissue continuously exposed to desiccation and destruction. Here dressings must be applied to prevent desiccation and maintain proper temperature while inhibiting trauma and infection. A well-adapted, non-irritating, impervious covering fulfills most of these requirements.

Excepting the intentional wounds of aseptic surgery, the vast majority of lesions requiring local dressings are of an infectious nature and often difficult to handle. These are the ones that demand the most of our attention, and measures that are practical and effective in their treatment deserve our confidence and support in direct proportion to their curative properties. Bacteria and their products are the aggressive factors here, and their treatment by other means than complete and direct removal or disinfection—in which case they become aseptic lesions—is the treatment under consideration.

Action of Antiseptics.—In some specific infectious lesions, medicinal substances entering the general circulation exert distinct local curative influences. A study of the best known and most efficient antiseptics will throw much light on the specific action of the group in general in local applications. Foremost among them are the salts of mercury, of which the bichlorid is the one most used. Its direct efficiency under favorable conditions and its limitations in the presence of serum and pus are generally well known. In a 1 to 1,000 aqueous solution it prevents the growth of anthrax spores in from 3 to 7 minutes, while a 1 to 10,000 aqueous solution kills the bacilli in 6 seconds. A 1 to 1,000 aqueous solution kills the *Staphylococcus pyogenes aureus* in from 1 to 5 minutes, though in the presence of serum, pus or fat it is rendered ineffective in much stronger solutions. A 1 to 2,000 solution in dressings frequently excites a pustular dermatitis in previously healthy skin, and a 1 to 10,000 solution in irrigation causes local cellular necrosis on exposed tissues.[2] Thus it does not meet the conditions prescribed, that it shall destroy or inactivate the bacteria without injuring the tissues containing them. Other salts of mercury are equally wanting in this particular attribute.

Phenol (carbolic acid), its related products and derivatives, iodin and its preparations, and the various formaldehyd combinations used as antiseptics, are all more or less bactericidal, but none of them limit their injurious action to the bacteria alone; to effect their purpose they destroy the tissue and thus also fail to reach the prescribed standard. The eligible substances must pass through the vital juices between or within the cells to the sheltered bacteria and produce their specific effects without disturbing the function of the lymph or the integrity of the cells.

The physical and vital relations of the bacteria and tissues being so intimate, the one being hidden in the interstices of the other and both depending on the same pabulum for their nourishment, the achievement of such a desired result could ensue under but two possible conditions: either that the agent exert a selective action on the bacteria, or that their resistance be so much below that of the tissues that they succumb to a weak solution that is harmless to the latter. Many experiments by competent observers now render it extremely doubtful if we have a single chemical antiseptic possessing these attributes.[3] Such selective substances may eventually be evolved for local use as are now used through the circulation, as vaccines, antitoxins, etc. As the effects obtained by applied irritants increasing the local reaction, phagocytosis, etc., are not specific in their nature, though often desirable in practice, the bacteria being only secondarily or indirectly affected, this process is not to be considered in the present relation. The intelligent use of antiseptics in preparation for operative work, or with the knife and cautery where the sacrifice of some living tissue occurs in the effort at stimulation or direct disinfection to save the rest, is, of course, not interdicted. The ultimate defense of the tissues through local measures designed to directly affect the contained bacteria being at present impracticable, if not impossible, means favoring the protective power of the tissues themselves, on which reliance must eventually be placed, thus become of first importance.

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[2] Halsted: Kelly's Operative Gynecology, first edition.

[3] Verhoeff and Ellis, of Boston, in summing up an article in THE JOURNAL A. M. A., June 29, 1907, say: "Our results seem to justify the belief that no non-irritating antiseptic can be effective in the presence of serum. . . . No chemical antiseptic can destroy micro-organisms within the tissues without injury to the latter." Sir Almroth E. Wright, London, in THE JOURNAL A. M. A., August 10, 1907, in an article on the opsonic theory, says of local antiseptics: "The antiseptic will directly antagonize the protective forces which the living organism has at command, it will paralyze the phagocytes and will abolish the anti-bacterial power of the blood fluids. This is not all; it injures the histologic elements and in particular the capillaries, leading to an outpouring of lymph, which not only washes away the antiseptic, but when the skin is in question converts it into a lymph-sodden envelope easily penetrated by bacteria."

EFFECT OF HEAT AND MOISTURE ON BACTERIA

The query naturally arises as to the effect of heat and moisture on the growth of the wound bacteria, as these physical conditions are quite as essential and favorable to the growth of micro-organisms as to that of the tissue elements. The immediate effect is a mechanical one, like irrigation, the bacteria free on the surface of the wound or floating in the serum being disseminated by the fluid throughout the capillary gauze. The diffusion is rapid and continuous until the gauze is saturated, the result being a great reduction in the number of free bacteria in direct relation with the wound and a corresponding diminution in the contained toxins. Growth may occur in the dressings on the nourishing wound secretions, but with their frequent renewal this growth is quite a negligible factor, as it is no longer associated with the wound itself. There are yet to be considered the bacteria remaining in contact with the wound and those within the tissues.

Intramural Bacteria.—These bacteria are beyond the direct mechanical as well as the direct bactericidal action of any safe application, and are affected solely by the tissue reaction, either normal or artificially stimulated.

Intermediate Bacteria.—There is a sort of middle or intermediate region between the free surface bacteria which are readily removed by fluid diffusion in the dressings and the intramural bacteria just mentioned, where bacteria are present in the most superficial layers of the exposed tissues, in the cells and their interstices, enjoying all the beneficence of applied heat and moisture while at the same time exposed to a diminishing degree of tissue aggression among the advanced guard of superficial cells and altered serum. The dead and dying cells and defective serum furnish a rich pabulum in which the bacteria may develop rapidly with the least antagonism on the part of the tissues. This is the region of advancing granulations and will remain the one of greatest bacterial accumulation and growth. When the accumulation exceeds certain local limitations the excess becomes superficial and is removed, or intramural and is antagonized, an automatic arrangement that confines this accumulation to rather narrow and definite limits. The bacteria that become intramural are subject to the same influence as others of their class, the much larger number that become superficial from the absence in this direction of tissue resistance are removed and cause no further trouble, the constantly changing original zone still remaining the center of active growth and distribution.

In closed infections greater extension of the bacteria into the tissues is favored by the absence of a free surface and diminished tension toward which growth preferably occurs. In some virulent types of infection, as hydrophobia, malignant edema, etc., and other infections in profoundly altered states of tissue resistance, the dissemination of the bacteria and their products is so irresistible that a differentiation into these several zones from the standpoint of local applications becomes practically useless.

Fortunately, however, these are not the ones with which we most frequently have to deal. These three zones are influenced by the local dressing, and their control is commonly the control of the infection. The superficial, we have seen, is controlled by the mechanical action of the wet dressing; the intramural depends on the resistance of the tissues; while the intermediate is subject to both influences, their combined action eventually eliminating all bacteria during the healing.

EFFECTS OF COLD

Although practically all pathogenic bacteria grow best at or near the body temperature, most of them continue to grow at temperatures both above and below this point, and the more common ones, particularly the pyogenic, have a range of many degrees compatible with existence and development. The tissues, however, are very susceptible to changes of temperature beyond comparatively narrow limits. A reduction of a few degrees in the local temperature will seriously reduce the resistance of the affected tissues, while the bacteria will continue to develop with only a slightly diminished virulence in a practically non-resisting field with a result easily foretold.

Thus it is with cold as with the bactericides, the inhibiting influence on the bacteria is more than offset by the injurious effect on the resisting tissues. Whatever salutary influence cold may be considered to exert on the inflammatory process, it certainly should not be ascribed to any direct action of the cold on the bacteria. Excessive heat is equally prejudicial to tissue resistance. Doubly disastrous is the effect of cold when it also produces characteristic circulatory changes, further reducing the vitality of the tissues by diminishing the quantity of blood.

While heat and moisture do most favorably influence bacterial development, at the same time they secure for the tissues the highest degree of efficiency in executing their aggressive or conservative action in the ultimate struggle with invasion. It is not to be presumed that any dressing will increase the resistance above nature's normal, or the greatest degree of resistance the tissues can offer to invasion without themselves suffering injury or loss of integrity. If that can be reached, or as near as may be approached, the best possible local aid has been given. Were the virulence of the bacteria under the stimulus of heat and moisture to increase *pari passu* with the resistance of the tissues, apparently nothing would be gained by the process. While ordinarily such an increase is quite improbable, it is true that the tissue cells start with the decided natural advantage of self-protection, so that the dressing that best conserves this advantage is the most meritorious.

This is the gist of the whole matter: that which interferes with bacterial development depresses the tissues; that which favors the tissues favors the bacteria; but, as every victory that has ever been won over invasion has ultimately been won by the tissues, reason suggests and experience proves that the dressing that keeps the inherent advantage of the tissues in the highest possible physiologic condition is the one most favorable to healing. From the foregoing considerations it is my belief that the wet dressing most nearly fulfils these requirements and furnishes the nearest approach to the ideal condition for the healing of the extensive class of surgical conditions for which it has been suggested.

LIMITATIONS AND MODIFICATIONS

The wet dressing is not a panacea nor is it without faults. Aside from the evils arising from its use to the exclusion of other indicated surgical measures, it may have unpleasant effects in its usual employment. These are more particularly its macerating effect on the skin and occasionally resulting dermatitis. When it is desired to employ a wet dressing over a long period of time, or under unfavorable local conditions, the previous application of a protective salve to the surrounding region usually overcomes all difficulties, the condition resembling that of the protective vernix caseosa in the liquor amnii. Occasionally alternating the wet and the dry dressing, part of the time one and part of the time the other, is a satisfactory solution of the problem; and when the irritating effect becomes more serious than the condition it was intended to allay it is naturally interdicted entirely. In practice these objections and contraindications seldom occur, and the occasion is exceedingly rare when it can not be used advantageously during the period when its influence is most desired.

100 State Street.

THE EXPERIMENTAL PRODUCTION OF THE MATERNAL PLACENTA

AND THE FUNCTION OF THE CORPUS LUTEUM *

LEO LOEB, M.D.*
PHILADELPHIA

In former work I have shown that it is possible to produce at will any desired number of maternal placentas or deciduomata in the guinea-pig, if we make incisions into the uterus at a certain period after ovulation. Here I shall report on the continuation of my work[1] without, however, attempting to go into any details or to give definite figures.

1. In the beginning I may state that the experimental production of the maternal placenta depends primarily on three factors: first, on a chemical sensitizing of the uterine mucosa; second, on an additional mechanical stimulus applied to the uterus, and, third, on a certain condition of the body fluids of the animal.

2. In my former publication I described only the changes produced in the guinea-pig after incisions made into the sensitized mucosa. Since then I have carried out similar experiments in rabbits and I find that in the rabbit it is also possible to produce the maternal placenta experimentally. But while in the guinea-pig the newly formed structures somewhat resemble the adrenals, in the rabbit the experimental maternal placenta is differently built. Here usually no distinct tumors are obtained, such as we find in the guinea-pig, but the histologic changes are very marked; they consist in proliferation of the surface epithelium leading often to giant-cell formation, in the production of nests of glycogen cells in the uterine papillæ and in a plasmodial transformation of many uterine blood vessels, changes also noted in the normal placenta of the rabbit. These results enable us to analyze the factors leading to the building up of the maternal placenta and to state that these structures are produced independently of any specific action of the ovum, because experimentally they can be produced, without any previous contact with the ovum having taken place. I have not yet succeeded in reproducing Minot's monster cells or the multinucleated glycogen cells. At present, therefore, we can not exclude the possibility that these latter structures may owe their origin to a specific action of the ovum.

It will be of great interest to use these methods for the analysis of the formation of the placenta in other mammalians.

3. In my former publication I stated that after extirpation of the ovaries the formation of the maternal placenta takes places only in a small minority of all cases and that in the few positive cases the resulting deciduomata are very small. Since then I have continued these experiments and in a large series I have noted that the only tissue in the ovaries which is concerned in the production of the sensitizing substance is the corpus luteum. Even after extirpation of the corpora lutea small deciduomata may be produced in a small minority of cases; and in one experiment, indeed, I found a pregnancy to be established notwithstanding the absence of the corpora lutea (which was in every case proved by examining the ovaries in serial sections). The few positive results obtained after the removal of the corpora lutea are in all probability to be ascribed to the fact that in my experiments the lutein tissue was removed several days after ovulation and at that period a partial sensitization of the uterine mucosa may very well have taken place already. In future experiments it will be necessary to remove the corpora lutea or the ovaries very soon after ovulation before the specific substance has been formed, and in such cases no maternal placentas ought to develop after subsequent incision into the uterus.

4. I have, therefore, been able to ascribe a definite function to the corpus luteum, namely, that of supplying a sensitizing substance to the uterus which prepares the latter to respond with the production of the maternal placenta, if an external stimulus of a mechanical nature is added. A number of investigators, especially Born and Fraenkel, believed the corpus luteum to be indispensable for the attachment of the ovum at the surface of or inside the uterine mucosa and consequently also for the initial stages of pregnancy. Furthermore, the periodic function of the corpus luteum was believed to be responsible for menstruation and other sexual processes. No definite proof for these hypotheses, however, has been given so far; and the experimental evidence was, on the whole, unsatisfactory. My investigations led to an exact method of experimentation which permitted us to determine definitely the function of the corpus luteum, namely, that of supplying a substance which sensitizes the uterus and thus enables it to produce the maternal placenta.

5. In order to correlate the functions of the corpus luteum and the formation of the maternal placenta it was necessary to study the growth and the retrogression of the corpus luteum in the guinea-pig. Only a few data of interest may be mentioned here. The corpus luteum in the guinea-pig is formed principally through a transformation of the granulosa cells of the follicle.

6. The formation of the corpus luteum follows the spontaneous rupture of the follicle (ovulation) which usually takes place approximately six to ten hours after copulation. But ovulation with the subsequent formation of corpora lutea may take place independently of a preceding copulation. Such a spontaneous ovulation usually occurs in the mother inside the next ten hours after the young have been born; it also occurs in many cases spontaneously—approximately nineteen to twenty-four days after a preceding ovulation without the pres-

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

* From the Laboratory of Experimental Pathology of the University of Pennsylvania.

[1] In regard to this work, see the following articles:
Loeb, Leo: The Production of Deciduomata, THE JOURNAL A. M. A., 1908, L. 1897.
Ueber die experimentelle Erzeugung von Knoten von Deciduagewebe, etc., Centralbl. f. allg. Path. u. path. Anat., 1907, xviii, No. 14; Die Erzeugung von Decidua in d. Uterus des Kaninchens, Arch. f. Entwckingsmech. d. Organ, January, 1909, xxvii; Zur Analyse der [illegible] mütterlichen Teiles der Placenta [illegible] Entwskingsmech. d. Organ., 190[illegible] tung des Corpus luteum. Centralbl. f. Physiol., November 3, 1909, xxiii; The Formation of the Corpus Luteum in the Guinea-Pig, THE JOURNAL A. M. A., 1906, xlvi, 416. For a review of the literature concerning the corpus luteum see Birnbaum, R.: Sammelreferat, Ztschr. f. allg. Physiol., 1908, viii.

ence of a male. But such a spontaneous ovulation without a preceding labor and without a previous copulation does not take place in every case. Under ordinary conditions the corpus luteum grows actively for approximately eighteen days; then a spontaneous degeneration and retrogression sets in. In the case of a concomitant pregnancy, however, the period of retrogression is deferred considerably and only begins sixty days after copulation or later.

7. Although the life and growth of the corpus luteum lasts, therefore, usually eighteen days, and much longer in the case of pregnancy, the uterus is not sensitized during the whole of this period, but only approximately from the second to the ninth days after copulation. If the mechanical stimulus of the uterus is applied after the ninth day, the uterus does not usually respond with the formation of a maternal placenta. This may perhaps be due to the fact that within nine days after copulation the uterus becomes saturated with the sensitizing substance and that, after such a state of saturation has been reached, fatigue sets in and the uterine mucosa becomes unresponsive. It may be that only a dynamic process, namely, the constant addition of the corpus luteum substance, has a sensitizing effect. However that may be, this curious relation between corpus luteum and uterine mucosa exists and is easily interpreted in a teleologic sense in the following manner:

8. We see that the uterus is sensitized approximately three to nine days after copulation. If we wished, therefore, to select the safest period for the egg to attach itself to a sensitized uterine mucosa and to be sure to be welcomed at its new habitat, and to find a responsive environment, we would choose the middle of this period, namely, approximately the sixth day after copulation, and this is precisely the term at which under normal conditions the ovum does begin to enter the uterine mucosa in the guinea-pig.

We have here an example of a highly useful adaptation, most important for the propagation of mammalians, and we, furthermore, recognize the fact that this adaptation is based on a biochemical correlation between different organs.

9. In this connection I may briefly mention a few other facts concerning the life-history and the possible function of the corpus luteum. The retrogression of the corpus luteum sets in apparently spontaneously at the period mentioned above; it is not dependent on nor is it caused by a preceding new ovulation and the formation of a new corpus luteum. The retrogressive changes in the corpus luteum set in even without the previous rupture of a follicle.

On the other hand, in a number of cases I found that an early extirpation of the corpora lutea led to an acceleration of the following ovulation and consequently to an earlier formation of new corpora lutea. This observation suggests that the existence of growing corpora lutea has an inhibiting effect on the growth and rupture of ovarian follicles. Such an inhibiting action does not, however, consist in a mechanical influence exerted by the corpus luteum, inasmuch as the follicles rupture as soon as the retrogressive changes set in in the corpora lutea, although the site of the corpus luteum and, therefore, its mechanical significance has not yet changed at that time. It is, therefore, a justifiable hypothesis, if we assume that the functional, probably chemical activity of the corpus luteum is one of the factors determining the time of the rupture of the follicle and the subsequent formation of the new corpora lutea. Such an influence of the corpus luteum is, however, not the sole determining, but only a concomitant factor in ovulation; it would explain why during pregnancy a further rupture of follicles usually does not take place.

10. At present we do not know why the spontaneous rupture of follicles is followed by the formation of a corpus luteum. Two years ago I carried out a number of experiments, in which at various times, preferably near the period of ovulation, I made incisions into the ovaries, in order to open follicles and thus, if possible, produce corpora lutea experimentally, but in no case did I succeed. The cuts in follicles were not followed by the formation of corpora lutea. These experiments I intend to take up again. Perhaps some variations in the technic may give positive results, but at present it appears as if only at certain periods and under certain conditions the opening of a follicle would lead to the formation of a corpus luteum.

11. Three factors are, as stated, primarily concerned in the experimental production of the maternal placenta: (1) the sensitizing substance of the corpus luteum; (2) the mechanical stimulus exerted directly on the uterine mucosa; (3) the character of the body fluids, which is more or less specific for each individual of a certain species.

It is, however, possible to make a more far-reaching analysis of these phenomena and to reveal quantitative relations between the causative factors and the size of the deciduomata.

I mentioned above that sometimes after extirpation of the corpora lutea, deciduomata develop, which, however, under those conditions were usually very small. This can best be explained if it be assumed that a relatively small quantity of this corpus luteum substance enables the mucosa merely to form small deciduomata.

In a similar manner incisions made into the uterus inside of the first forty-eight hours lead usually only to the development of small nodules, and probably for the same reason; at that period after application of the mechanical stimulus, when the uterus begins to react, only a relatively small quantity of the sensitizing substance had been secreted and had had time to unite with the uterine mucosa.

12. Definite quantitative relations exist also between the mechanical stimulus and the size of the maternal placenta.

The volume of the deciduomata grows in direct ratio to the area of the uterine mucosa exposed by the incision. The direction of the incision is, therefore, of importance and, furthermore, it is found that the deciduomata are very small in cases in which the incision had been made near the tubal end of the uterus, inasmuch as such an incision renders possible the exposure of only a very small area of the uterine mucosa.

13. Of the three factors concerned in the development of the maternal placenta, the sensitizing substance of the corpus luteum shows the highest degree of specificity, while the mechanical factor is the least specific, inasmuch as its place can be taken by an apparently totally different process, namely, the insertion of the ovum.

It is, therefore, not to be wondered at that even the stimuli always present in normal tissue life have some effect in exciting certain reactions in a uterine mucosa which has previously been sensitized by the specific substance of the corpus luteum. In experiments in which I prevented the ova from entering the uterine cavity after ovulation I found, indeed, that even without a preceding incision at a certain period after ovulation, when the uterine mucosa has been sensitized, certain predecidual changes take place normally and rhythmically, leading in the guinea-pig to the appearance of many mitoses and to a myxomatous condition in the connective tissue, and in the rabbit to an amitotic division of the epithelial nuclei.

Here, again, a quantitative relation is seen between exciting conditions and the extent of the changes produced. The normal stimuli of tissue life are quantitatively very much inferior to the experimental incisions and to the insertion of the ovum and lead, therefore, only to the beginning of placental changes.

14. The experimental facts just mentioned may explain the difference in the structure of uterine and tubal mucosa in the guinea-pig. The former is very rich, the latter is very poor in cells. Correspondingly we find that the uterine mucosa can be sensitized by the corpus luteum substance, while, as we shall see later, the tubal mucosa in the guinea-pig can not be sensitized.

This process of sensitizing enables the connective tissue of the uterine mucosa to proliferate periodically, to be more or less in a rhythmic condition of growth, while the tubal connective tissue is resting. After cessation of sexual activity the uterine mucosa must become atrophic, being no longer under the influence of the sensitizing substance of the corpus luteum.

These observations enable us, therefore, to correlate structural differences between the mucosa of the uterus and the Fallopian tube with certain dynamic biochemical differences, namely, difference in the ability of certain tissues to combine with the sensitizing substance provided by the corpus luteum.

15. The substance which is produced in the corpus luteum and which sensitizes the mucosa of the uterus has a specific affinity to the uterine tissue. In a number of experiments I made incisions into the peritoneal wall, into the ovaries, into the Fallopian tubes of the guinea-pig, into the subcutaneous tissue, and I transplanted skin in animals at the critical period, but in no case did I find any unusual reaction in these tissues, none of these tissues or organs having become sensitized.

This is especially noteworthy if we consider that apparently the ordinary connective tissue is the same everywhere in the body.

This specific affinity of a certain chemical substance could be explained, however, if we assume that the identity of the different connective tissues of the body does really not exist, or, as an alternative, we could refer the specificity, not to the connective tissue, but to the surrounding epithelium, of which we know that it differs in structure and, therefore, in metabolism from other epithelial structures. The connective tissue would then receive the stimulus only through the intermediate action of some other cells.

16. This specificity which is established experimentally clears up another related problem.

On the basis of many experiments I can state that in the guinea-pig it is impossible to produce at will an extrauterine tubal or abdominal pregnancy. The ovum which after fertilization is prevented from attaching itself to the uterine wall perishes without forming an embryo.

We are now able to state why an extrauterine pregnancy is impossible in the guinea-pig: Neither the tube nor the peritoneal lining nor the ovarian tissues are able to produce the maternal part of the placenta in response to the stimulus of the ovum touching the uterus, and without a maternal placenta the egg is unable to develop.

In man we occasionally do find such a response in the case of tubal pregnancy; here the specificity in the fixation of the corpus luteum substance is less marked than in the guinea-pig.

17. I have already stated in a former communication that it is possible to obtain growth of the decidua in a piece of uterine tissue which is excised and transplanted into the subcutaneous tissue of the same animal. This proves that the formation of the placenta does not stand under the regulative influence of the central nervous system, and probably not of local nerves, it being very unlikely that such peripheral nerves and ganglia cells would functionate after transplantation of a small segment of the uterus. In the large majority of my experiments the pieces were transplanted several days after ovulation; therefore, at a time when the sensitizing of the uterine tissue in all probability had already taken place. Such experiments, therefore, do not prove that the sensitizing takes place through a chemical agency carried to the uterus through the circulation and not through the nerves. In two cases, however, in which the transplantation was done within the first twenty hours after ovulation and in which, therefore, in all probability the uterine tissue has not yet been sensitized before transplantation small deciduomatous areas formed in the transplanted uterus. This indicates that the sensitizing substance is carried from the corpus luteum to the uterus through the circulation and that it is not transmitted through the nerves.

18. But is it possible to obtain a decidua in the transplanted uterus only after transplantation into the same animal? I have so far not been able to obtain the formation of a well-developed decidua after transplantation into a male guinea-pig. In a large series of experiments I exchanged the uteri in animals which were known to be at the same period after ovulation, in animals therefore, in both of which the sensitizing substance was present. Notwithstanding this equality of conditions there was a notable difference in the results. After transplantation into the same female the number of deciduas formed in the various experiments was greater and the size of the deciduas was larger in the positive cases. These experiments I intend to extend still further. But at present it is very likely that the body fluids are different in the different individuals of the same species and that this difference is of importance for the cell growth and that at least some tissues show a specific adaptation to their individual body fluids and that such an adaptation becomes especially apparent in certain conditions of unusual functional activity. This result is a further confirmation of my former findings, according to which certain tumor tissues remain alive after transplantation into the individual in which they originated, but die after transplantation into other individuals of the same species.

19. We see that in the transplanted uterus a decidua can be produced under the conditions valid in the case of the untransplanted uterus.

Where and from what kind of cells does the decidua form in the transplanted uterus? Do the invading connective-tissue cells of the host tissue become converted into decidua in contact with the uterine structures? In examining the uterus at various stages after transplantation, it becomes apparent that not only the transplanted glands remain alive, but also the connective-tissue cells in the neighborhood of the glands, and precisely at this place, the deciduomata are formed; we have therefore, sufficient reason for believing that the connective tissue of the transplanted tissue of the host gives origin to the deciduomata—just as in tumor transplantation, sarcoma and carcinomata arise from transplanted cells and a new infection of the host cells does usually not take place.

20. It will not be necessary here to discuss the bearing which these experiments have on the analysis of tissue and of tumor growth, as I have done this at some previous occasions. It may suffice to state that I have here been able to demonstrate the interaction of various sets of factors which all have to participate in a quantitatively determined way at stated periods in order to produce a growth which differs from the ordinary regenerative and bears some resemblance to tumor growth.

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ABSTRACT OF DISCUSSION

Dr. Maximilian Herzog, Chicago: The work done by Dr. Loeb is interesting, and it is probable that it will give us an important clue to some of the fundamental principles underlying placenta formation. Those pathologists who have had a chance to study very early placenta formation in some of the lower animals and in the human species have been struck by the fact that it presents the paradigm of two important pathologic processes—viz., of malignant tumor formation and of inflammation. The former is represented by the trophoblast, which invades the maternal tissues in the same manner as a malignant tumor invades the tissues in which it grows. The latter is represented by the decidua, which gives us the picture of a tissue in profound acute inflammation. It has been my good fortune to obtain a specimen of a very early human ovum *in situ*, and I first presented a preliminary report of it to the Seventh International Congress of Zoology, held in August, 1907, in Boston. In my preliminary report I stated these facts and gave it as my opinion that some of the changes produced in the maternal tissues are not due merely to the mechanical insult of the penetrating ovum, but to an enzyme secreted by the trophoblast. Dr. Loeb believes that the changes, as he has produced them experimentally in animals, are due to the trauma plus a sensitizing substance secreted by the corpus luteum. If I understand him correctly, the corpus luteum in guinea-pigs is formed by the zona granulosa. This is not true in human beings, in which it is formed partly from the theca interna and partly from the theca externa. I believe that the hypothetical enzyme that causes the decidual change in the maternal tissues is furnished by the trophoblast. We find some support for this belief in the observations first made by Bonnet and Marchand, that the syncytium surrounding the trophoblast has a complete lining of cilia. Such a lining is ordinarily found in secretory epithelial cells.

One word as to the terminology: I believe that it is not correct to speak of these decidual formations as deciduomata and to classify them as tumors, because I do not think that they are true tumors, and do not suppose that Dr. Loeb considers them as such. From what I have learned and seen of Dr. Loeb's investigations I believe that these experimental decidual masses should be looked upon as inflammatory hyperplasias. We know from human pathology that there is hardly any structure in the body in which inflammatory hyperplasias are more common than in the uterine mucosa. It seems to me that in the case of Dr. Loeb's experiments in guinea-pigs we have a sensitizing of the mucosa by an enzyme; and the traumatic insult, in combination with the former, causes an inflammatory hyperplasia.

Dr. H. Gideon Wells, Chicago: The development of the placenta has peculiar interest from the general standpoint of biologic chemistry, from the fact that we have developed in a comparatively short space of time an organ equipped for carrying on complex metabolic processes. The work of Bergell has shown that the placenta is more than an organ for regulating diffusion of substances to and from the offspring—that it is intended for carrying on a considerable portion of the metabolism of the growing fetus. I have had occasion to study the purin metabolism of the human placenta, and have found that the placenta is endowed with the same enzymes common to other tissues of the adult human being; and also that among the purins there is a large proportion of hypoxanthin, whose presence is an indication of a high degree of metabolic activity going on in the tissues. Those tissues not actively carrying on nuclear metabolism have most of the purins in the form of adenin and guanin. The active tissues have large quantities of hypoxanthin, and I find that the amount in the human placenta is quite large in proportion to the other purins.

Dr. M. J. Rosenau, Washington, D. C.: How does Dr. Loeb account for the fact that these placental formations do not occur in human beings following surgical operations, which certainly occur in certain cases at favorable times following corpus luteum formation.

Dr. Leo Loeb, Philadelphia: Dr Herzog seems to assume that the corpus luteum in man originates through proliferation of the cells of the theca interna and externa. I do not believe, however, that he will be able to produce sufficient evidence for his conception. The difficulty of the corpus luteum problem is that only in a few animals has a good study of the development been made. Sobotta showed that if we take animals the age of whose corpus luteum is known it can be demonstrated that it is derived, not from the theca interna or externa, but almost entirely from the granulosa. He found it in the rabbit and white mouse, and I found it in the guinea-pig. Until an equally thorough investigation shall have been made in man we can assume that the origin of the corpus luteum in man is the same as in animals.

As to the enzymes of the trophoblast, there is great likelihood that it contains some proteolytic and, perhaps, some other enzymes. No definite study, so far as I know, has been made of it, however. That the enzymes of the trophoblast have any formative action on the placenta, however, has not been shown; and there is practically no evidence in favor of this. In the course of my investigations I found that the ovum acts in a way similar to incisions in the uterine wall. That the trophoblast represents the stimulating part of the developing ovum is quite improbable, inasmuch as under the influence of the ovum the decidua begins to form before the trophoblast has been formed. Without the sensitizing action of the corpus luteum the ovum is, in the large majority of cases (probably in all cases), unable to cause a production of a maternal placenta; after early extirpation of the corpora lutea the ovum is no longer able to call forth the development of a well formed decidua in almost all cases, as I have shown experimentally.

I would not advise classing these deciduomata as inflammatory hyperplasias, as Dr. Herzog recommends; because if we do that we shall have to call the maternal placenta an inflammatory hyperplasia, and I do not see any advantage in doing that. To some extent I sympathize with Thoma, who wanted to do away entirely with the term inflammation, as being confusing. In this case the term inflammatory hyperplasia would certainly be actively out of place, as there is no inflammation in a properly conducted experiment. As to the relations of these experimentally produced new formations to tumors, I can in the main refer to my former articles.

In answer to the question of Dr. Rosenau as to why deciduomata are not found in patients after surgical operations I would say that I have little doubt that if pathologic examinations were made at the proper time changes characteristic for human maternal placenta would be found.

Physical Exercise in Schools.—In the public schools there should be not only systematic physical exercises, which should be given in close connection with the instruction in physiology and hygiene, but there should also be the largest possible amount of muscular activity in connection with all studies.—W. E. Garrison, in *Hygiene and Physical Education.*

CANCER CYSTS OF THE BREAST AND THEIR RELATION TO NON-MALIGNANT CYSTS *

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New problems and new responsibilities accompany all surgical diseases when they appear for treatment at an earlier stage of the disease than hitherto. Accumulated experience demonstrates that surgical interference of any kind promises better immediate and ultimate results when this procedure is instituted at a period in which the diagnosis is most difficult. This is especially true of tumors and is well exemplified in tumors of the breast.

Pathologists are less interested in gross and cellular pathology to-day than formerly, because investigations as to the etiology of disease along the lines of gross and cellular pathology have been about exhausted or have reached their limit of evident usefulness. Pathologists, therefore, are more and more interested in experimental pathology and physiologic chemistry. Surgeons, I am convinced, will become more and more interested in the gross and cellular pathology of the diseases that they are called on to treat, because this knowledge is of practical importance. It does not seem a good plan to have one set of men make the diagnosis and another institute the treatment.

I can exemplify these new problems and responsibilities very clearly by a discussion of cysts of the breast. If every tumor of the breast was seen by the surgeon within a few hours or days after it was first felt, very rarely would that surgeon be able to make the diagnosis as to the nature of the tumor from the examination. The diagnosis would, therefore, have to be made by exposing the tumor so that its gross or cellular features (from a rapid frozen section) could be studied.

It appears to me that the responsibility of the surgeon is very clear: he should be his own pathologist. But I am confident that for a number of years in many clinics surgeons will still desire to have pathologists present at the operation to make for them the diagnosis from the frozen section.

These remarks, therefore, in regard to cysts of the breast are directed to surgeons who wish to make their own pathologic diagnosis, or to pathologists who are called on to assist surgeons in the diagnosis of surgical diseases.

I wish, however, to repeat that clinicians will find it incumbent on them to keep pace with that knowledge of physiology and pathology which practical surgery and medicine require for diagnosis and treatment.

Among surgeons there are various views in regard to the method of making a diagnosis when it is impossible or doubtful clinically. Some cut down on the tumor and make the diagnosis from the gross appearances; others, in addition to this, cut out a small piece for an immediate frozen section. It is this method that I prefer—the direct exploration of the tumor. After a time a surgeon can train himself to dispense with immediate frozen sections except in rare instances. In my experience, after one has had a sufficient training, the diagnosis from the gross appearance is easier and undoubtedly quicker and, in many cases, more certain than from a *rapid* frozen section.

Other surgeons prefer to cut the tumor out locally and then cut into it and make a frozen section. This method, it seems to me, has greater dangers of dissemination than the former. But I have had no experience with it, and, therefore, can not speak authoritatively. In my experience, direct exploration of the tumor, if followed at once by the indicated operation, has practically no dangers, even though the disease be malignant. One can, of course, recognize the advantages of this method if the lesion is benign.

Other surgeons expose the lesion, cut out a piece, or cut out the tumor, close the wound and then wait a day or two for a careful microscopic diagnosis based on a carefully prepared section. This method, from the standpoint of the pathologist, is undoubtedly the best, but from the standpoint of the patient and the surgeon the worst. I have had sufficient experience with the results of this method, from tumors and tissues sent to me for diagnosis, to know that in the large majority of cases it has proved fatal in tumors in which, from an experience based on the other methods, one would regard a cure as probable.

With the evidence which I have been able to accumulate I feel that there is no doubt as to which is the best method. The diseased tissue must be exposed directly and the diagnosis made at once, either from the gross appearance or from the rapid frozen section.

For this reason I would urge pathologists who are associated with surgical clinics to be present at the operations, so that they may see the gross appearance of the diseased tissue as well as the histology from the frozen section. And, in addition to this, before they make a diagnosis, they will find that knowledge of the clinical history will prove of value.

The responsibility of a diagnosis in many of these cases is a very great one: life often depends on it; unnecessary mutilation may be saved by it. From my own experience I am convinced that the careful association, in rapid sequence, of the clinical history, examination of the gross appearance and frozen section will be more valuable in the diagnosis than any one of these alone. When the surgeon is his own pathologist he has all the evidence; the pathologist, unfortunately, asks for and gets the cellular picture alone.

It is my opinion that the pathologist will be more helpful to the surgeon if he would but study the clinical and the gross as well as the histologic aspects of the surgical lesions that he is called on to diagnose.

A diagnosis at an operation is an entirely different thing from the diagnosis at an autopsy. The knowledge that a diagnosis can be made at an operation in the majority of cases should be disseminated, so that a surgeon will be discouraged from assuming the responsibility of operating on such lesions unless he is prepared himself to make the diagnosis, or unless he has connected with his clinic a pathologist who can.

Of breast tumors in the surgical clinic of Professor Halsted of the Johns Hopkins Hospital, 31.5 per cent. were benign. Among these benign lesions 25 per cent. were simple cysts, 5 per cent. papillomatous cysts, and 1 per cent. galactocele, or a cyst due to chronic mastitis. Over 30 per cent., therefor, of benign lesions are cystic. With but few exceptions, cysts appear during the cancer age. Among the carcinomas, about 25 per cent. are cysts, about equally divided between the cancer cysts and the malignant papillomatous cysts.

To about every hundred benign cysts there are about twenty-five malignant cysts. Therefore, if malignancy is not recognized in almost 20 per cent. of cases of cyst, malignant disease will be improperly treated. If the cancer operation is performed in every case of cyst four women will be unnecessarily mutilated in every five operations.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

This lesion—a cyst of the breast—exemplifies the new problem and the new responsibility which I brought out in the beginning of this paper.

CANCER CYSTS

I have notes on fourteen cases in the surgical pathologic laboratory. In seven (50 per cent.) the tumor was clinically benign, and the diagnosis had to be made, when the cyst was opened, from the contents, or from the character of the wall, or from a frozen section of the wall. In five of these seven cases the diagnosis was not made until a stained section had been studied in the laboratory.

The study of these cases allows one to give a gross description which is so characteristic that one familiar with this picture should not make a mistake.

In six of the cases the contents of the cyst has been *hemorrhagic*. Up to the present time I have never observed blood in a smooth-walled cyst, except when associated with carcinoma in the wall. The benign papillomatous cyst may have hemorrhagic contents, but when there is no papilloma to explain the presence of blood the cyst should be treated as a carcinoma. In the remaining eight cases the contents, although not hemorrhagic, have been so granular, up to almost solid grumous material, that one could be certain that there must be a malignant epithelial tumor in the wall.

The diagnosis of a cancer cyst can, therefore, be made from the contents. In many of these cancer cysts one can see or feel with the knife or finger the carcinoma in the wall. In some cases the carcinoma is only a small nodule situated in one portion of the wall of the cyst, while in other cases it is found diffuse in the entire wall. As I am interested in presenting chiefly the picture which will allow a diagnosis, I shall not discuss the etiology of cancer cysts. When the wall of the malignant cyst has been moderately smooth and it has been difficult to recognize in the only moderately thickened wall any evidence of carcinoma, the contents have always been hemorrhagic.

In making the diagnosis of a cancer cyst from the frozen section the surgeon must remember that he might remove a piece from the non-cancerous area. In another possibility it might be difficult, except to one with considerable experience, to differentiate the cancer cyst from certain changes in the wall of a perfectly benign cyst which will be discussed later. There are chiefly two—an area of chronic interstitial mastitis in the wall and a small adenocystic area of senile parenchymatous hypertrophy.[1] I will discuss this more in detail under simple cysts.

The point that I wish to illustrate and to emphasize is that I believe that the diagnosis of a cancer cyst can be made with greater certainty from the gross appearance of the contents than from a rapidly frozen section of the wall.

The most recent case of cancer cyst which I have observed was that of a patient operated on before the Clinical Society of Surgery at its recent meeting in Baltimore (April, 1909). I did not feel justified in performing the cancer operation in this case. The tumor, of two weeks' duration in a woman of 43, was evidently a cyst, but the palpation of the tissue outside the wall of the cyst made me feel that I was dealing with a rare cancer cyst, because it reminded me of the first cancer cyst which I had observed with Dr. Halsted. In exploring this cyst no change whatever was found in the fat; the exposed cyst wall, before it was incised, had the smoothness, thinness and bluish color of a benign cyst. But when I opened this cyst the non-hemorrhagic contents were so granular that I was convinced of its malignant nature. On putting my finger into the cyst I could feel a little cancerous nodule in the opposite wall. In this case a frozen section of the wall through which I opened the cyst would have shown no carcinoma. To get a piece of tissue from the part of the wall that felt carcinomatous would have been difficult, and in my opinion dangerous, because in cutting through at this point one would have opened into the space between the breast and the pectoral muscle. The complete operation for carcinoma was therefore performed without obtaining a piece for frozen section.

BENIGN SIMPLE CYSTS

The cancer cyst must be differentiated from the benign simple cyst, and this differentiation (to repeat) is of great importance, because for the benign cyst in many cases excision of the cyst alone is sufficient, or, at the most, excision of the breast. It is rather interesting that among seven of the cancer cysts, clinically benign, in five the disease was not recognized at the first operation and the cyst only was removed. On the other hand, in about 100 cases of simple cyst the cancer operation has been performed in 16. Sixteen women, therefore, were unnecessarily mutilated, while in five among the cancer cysts the probabilities of a permanent cure were very much reduced by an operation in two stages. In fact, only one of these five patients was cured.

I have discussed elsewhere with considerable detail a disease of the breast which I have called senile parenchymatous hypertrophy. This lesion presents itself in two forms: with one or more cysts, as first described by Billroth as chronic cystic mastitis, and an area of hypertrophy in which large cysts do not develop; this second form has been called Schimmelbusch's or Réclus's disease. I have ventured to designate it as the adenocystic type of the aforesaid hypertrophy.

The type in which one or more cysts develop must be distinguished from the cancer cysts, while the adenocystic type must be differentiated from adenocarcinoma. This latter differentiation requires greater experience, as it is much more difficult both in the gross and frozen section.

This disease, especially the type in which cyst formations predominate, is, in my experience, a distinctly benign lesion. Among 106 cases of which I have records carcinoma has never been observed, and among about 500 carcinomas of the breast in only two instances have I observed cancer and a simple cyst present in the same breast. Among these 106 cases in two instances I have noted carcinoma in the opposite breast.

The disease, therefore, can and should be treated conservatively by those who are able, with absolute certainty, to make the differential diagnosis. If the surgeon on whom the responsibility for the operation rests has any doubt I would distinctly urge that the cancer operation be performed.

The conclusion that this hypertrophy is a benign lesion is based on the following observations:

In six cases no operation was performed. In two there was but a single palpable tumor, in three there were multiple tumors in one breast, and in one there were multiple tumors in both breasts. These six cases have been followed, and in four, in which more than three years have passed since the examination, the tumors have disappeared. In one case it is thirteen years since the first observation of the patient.

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[1] Bloodgood: Surg., Gynec. and Obst., 1906, iii, 721.

2. Bloodgood: Surg., Gynec. and Obst., 1906, iii, 721; Am. Jour. Med. Sc., 1908, cxxxiv, 157; Kelly and Noble's Gynecology and Abdominal Surgery, ii, 180.

In twenty-seven cases the cyst and a zone of breast tissue were removed. In all but three there was, clinically, but one tumor, and this single tumor was explored for diagnosis. In three cases the diagnosis was rather positive, because there were multiple tumors in both breasts, and one or more were excised because of discomfort.

In the three patients with multiple tumors I had the opportunity to observe the ultimate result. One, a patient of my own, was operated on twelve years ago; within three years the shot-like nodules disappeared, and they have not returned. In the second case it is six years since the operation, and I am informed that the patient has had no further trouble. The third is a recent case.

Among the twenty-four patients who presented, clinically, but a single tumor and from whom at operation only the cyst and a zone of breast tissue was removed, there has developed not a single example of carcinoma, and at the present time but two have developed other cysts. The first was a patient of my own, operated on now almost ten years ago, for a cyst in the upper and outer quadrant of the left breast; five years later she returned with a similar cyst in the upper and inner quadrant of the same breast; the cyst was removed. To-day both breasts are normal. The second case is a recent one, and I have just been informed that a tumor has developed in the other breast.

I am of the opinion that these observations over a period of now more than ten years in carefully studied cases justify the conclusion that conservative means can be employed without risk for benign simple cysts of the breast, provided the surgeon or pathologist is able to make the diagnosis from a cancer cyst at the exploratory incision.

In studying these twenty-seven cases in which the cyst only was removed I find that in every instance the contents of the cyst were either clear or slightly cloudy serum—never hemorrhagic, granular or grumous.

The cyst wall has always been smooth and not thick. In the breast tissue surrounding the cyst and cut through during the excision of the cyst dilated ducts filled with grumous pastille material have been found in six cases, and in these, in addition, there have been a few minute cysts of the size of the head of a white pin or a little larger.

Among the single tumors definite areas of the adenocystic type of the hypertrophy have been present in but two instances. When this has been present to any extent it has been my rule to excise the breast. Among the three cases in which one or two of the multiple tumors were removed, this adenocystic type was present in two.

The observations just discussed demonstrate that for the simple cyst situated in a breast in which the senile parenchymatous hypertrophy has not reached the adenocystic type, conservative measures are justifiable. When the adenocystic areas are present to considerable extent, I have as yet no evidence to offer that it is justifiable not to remove the breast, but I am of the opinion that further observations will allow us to select cases for conservative treatment even in this group.

In the remaining cases either the entire breast was removed or the cancer operation performed. These cases, therefore, allow one to study the opposite or remaining breast only, but can not be used as evidence for or against the conservative treatment of this disease.

In this group, however, we are brought in contact with those cases in which the diagnosis of carcinoma has been looked on as sufficiently indefinite to justify the complete operation for carcinoma.

Among 50 cases in which the breast contained a simple cyst the cancer operation has been performed 12 times, that is, in 24 per cent. of the cases, while among 15 cases of the hypertrophy without cyst formation the cancer operation has been performed 5 times; that is, in about 33 per cent.

Among the twelve cases of cyst treated as cancer, in six the operation was performed without an exploratory incision. In only one of these cases was there a definite clinical sign of cancer. This was a patient of Finney, and the nipple was retracted. In the other five cases the palpation of the tumor gave the surgeon the impression that it was carcinoma.

It requires a great deal of experience to diagnose cancer of the breast from palpation of the tumor alone. When this sign is present and no others, I am of the opinion that an exploratory incision should be made. In the six cases in which the cancer operation was performed without exploratory incision there would have been no difficulty in making the diagnosis of a benign simple cyst if the tumor had been explored.

Of the six cases which were explored, in one there was a thick-walled cyst; in another, two dilated ducts from which pastille contents could be expressed, and in a third case a small area of the adenocystic type of the hypertrophy in the wall. In these three cases the gross appearance and the frozen section would give rise to some difficulty, but I believe that after moderate experience such cases will be recognized. The mistake has never been repeated in Dr. Halsted's clinic. In the remaining three cases there was no reason for the mistaken diagnosis. The cysts were present in a rather senile, fibrous breast. These patients were operated on by surgeons who had had very little experience, and they deemed it wiser to perform the cancer operation, as they were in doubt.

I have gone over this point with considerable care and before writing the above have carefully studied each individual case, with the conclusion that the differential diagnosis between a cancer cyst and a simple cyst, now that we have the evidence presented, should not be a difficult one.

Now, when we come to differentiate the benign adenocystic type of the hypertrophy from adenocarcinoma, we have a more difficult problem. But I wish to emphasize this point: If in all such cases the treatment is for cancer, there would be relatively but a few patients on whom the cancer operation would be performed unnecessarily. But in the larger group, the cysts, the benign cysts so far outnumber the cancer cysts that it is distinctly worth while educating oneself to make the differential diagnosis.

In the senile parenchymatous hypertrophy without the large cyst formation, which is also known as Schimmelbusch's disease, and which differs from the cystic adenoma of the breast only in the fact that it is not encapsulated, the differentiation from carcinoma, clinically, in the gross, and in the frozen section, and even in the better stained section, may be very difficult, in inverse proportion to one's experience. I have examples of a mistaken diagnosis in each group. Clinically, it may simulate carcinoma, because the zone is hard and nodular; at the exploratory incision the little cysts filled with proliferating epithelial cells in a comparatively fair amount of stroma suggest adenocarcinoma. I shall have to leave to a larger contribution to be published later the details of this differential diagnosis. It can be made with certainty and safety to the patient.

PAPILLOMATOUS CYSTS

I find I have tissues and records of thirteen cases of malignant papillary cysts and twenty cases of distinctly benign cysts containing an intracystic papilloma. The diagnosis in the malignant intracystic papilloma could be made in all but three cases clinically. In many of these cases there was a long history of tumor and of discharge of blood from the nipple, but this was not present in all the cases.

The clinical diagnosis could be made from the retraction of the nipple or some involvement of the skin. For this reason an exploratory incision was not necessary. But the examination of these breasts after the operation revealed a pathologic picture entirely different from the benign cyst. There was no longer a papilloma in the wall, but a soft fungous growth, like a medullary carcinoma. One could distinguish, then, the malignant papilloma from the benign without difficulty. None of these cysts contained pure blood, but a grumous, granular material, sometimes hemorrhagic.

In three cases the cysts were clinically benign, but on account of the character of the contents of the cysts and the appearance of the tumor projecting from the wall a diagnosis of a malignant cyst could easily be made. In this group of thirteen cases there was but a single mistake made, but in this—an outside case—the breast had been removed. If the surgeon had made an exploratory incision there would have been no difficulty whatever in making the diagnosis. In this case there was a local recurrence eleven months after the removal of the breast.

Among the twenty benign cases, in six—about 30 per cent.—the tumor was treated on the diagnosis of carcinoma. In four of these cases an infection of the benign cyst produced changes in the skin so closely suggesting a malignant cyst that the operation for carcinoma was performed without an exploratory incision; one of these was a case of my own. In the remaining two cases the surgeon at the exploratory incision, in addition to a papillomatous cyst, found, in the wall of this cyst, a small area of senile parenchymatous hypertrophy, and interpreted it as carcinoma. That is, we have the same difficulty here as was experienced in the simple cysts with a similar minute cystic area in the wall.

In all of these cases of benign papillomatous cysts the contents of the cyst have been clear or hemorrhagic, never grumous or granular. The typical appearance of the benign papilloma (that of a raspberry or strawberry) was preserved; now and then the papilloma filled the entire cyst. That we were correct in our diagnoses in this group is confirmed by the study of the ultimate results. Every patient is apparently well to-day. The glands in the six cases in which the cancer operation was performed showed no metastases. In three cases only the tumor was removed; in the remaining—not treated as carcinoma—the breast. None of the cases were bilateral. The age of the onset varied from thirty to sixty-four; the duration of the tumor from three weeks to fifteen years. In over 75 per cent. of the cases there was discharge from the nipple, usually hemorrhagic. In one the cyst involved a male breast.[3]

I trust that I have shown by this summary of cysts of the breast that the correct diagnosis in the early cases must rest on the gross and microscopic pathology. If patients seek the advice of surgeons earlier, the surgeon will less frequently be able to use his art of clinical diagnosis, but must employ his own pathologic diagnostic abilities, and, if this is not at hand, he will require the services of the pathologist of his clinic.

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ABSTRACT OF DISCUSSION

Dr. William C. McCarty, Rochester, Minn: There are types of malignancy in papillary cysts of the breast, i. e., malignant change in the epithelium of the papillomata and change in the breast tissue surrounding the cyst. These perversions in the cells may be best discovered and studied at the time of operation by making frozen sections and staining them with Unna's polychrome methylene blue. Such sections can be made in from fifty seconds to two minutes, and are not only as good as paraffin and celloidin sections, but are better and more accurate, and may be photographed with better results. The importance of such early diagnosis may be seen from the fact that about 80 per cent of the tumors of the breast are malignant and experience has taught us that about half of the remaining 20 per cent would become milignant if left alone. The standard usually taken by pathologists that the cells must dip beneath the basement membrane before being considered malignant is, in my opinion, too conservative. This has been especially true in papillary growths of the bladder, specimens of which removed through the cystoscope have been reported malignant purely on cell studies. These specimens were proved to be malignant after resection by the fact that the cells in the base had dipped below the basement membrane.

Dr. Henry S. Wieder, Philadelphia: I am in the habit of considering the whole condition of cystic disease of the breast as only a part of general involution. In my experience it seems that the cystic variety is not so common as the more important proliferative variety in which, according to Dr. Warren, is more frequently found carcinomatous change. In the true cystic variety one rarely finds carcinoma associated, but one does find it in a high percentage of cases of the proliferative type. I believe that a careful study of this disease is the secret of early diagnosis of carcinoma. All cases should be studied thoroughly to discover whether they have undergone adenomatous involution and whether this is associated with carcinoma.

Dr. J. C. Bloodgood, Baltimore: Most of these photomicrographs were taken from frozen sections. It is to be remembered that in the beginning my training was distinctly that of a surgeon and that I attempted to educate myself to recognize disease in the gross. The opportunities for this were first afforded by the great number of tumors which came to the clinic in which there was no difficulty in making a clinical diagnosis. In those earlier days we did not often see carcinoma and other malignant tumors of the breast and elsewhere in that period in which a clinical diagnosis could not be made; but when this did happen, it was found that the disease exposed at the exploratory incision during the operation did not differ at all from the many that had been studied carefully in the laboratory after operation. I would like to state here that I found Dr. Halsted using this method of diagnosis when I came to his clinic in 1892. Practically, we never depend on frozen sections. During the past five or six years we have been making frozen sections in order to show the students within a few minutes the relation between the gross and microscopic picture. Dr. Lambert has developed the technic of frozen sections to such a point that for practical purposes they are almost as good as more carefully prepared sections. But the frozen section made within a few minutes is never quite so clear as one made from tissues which have been hardened in formalin.

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[3] Peck: Ann. of Surg., September, 1903, xxxviii, 450.

I am aware that few surgeons or pathologists will agree with me that it is easier to make the diagnosis from the gross appearance. I will admit, however, that the two together are better than either, but if one must depend on only one of the two, with my training, I should prefer the gross. My histologic conception of malignant disease, for example, carcinoma, is based on a long observation of the combination of the clinical, gross and microscopic appearances. Up to the present, for every histologic picture that has been considered malignant I have observed at least one example of metastasis and death from cancer. And for every picture considered benign, further clinical observation has confirmed the diagnosis. Dr. Welch has often remarked to me that the surgeon who studies his cases pathologically and keeps track of the ultimate results has a much better opportunity to become conversant with the relative grades of malignancy, for the pathologist seldom has an opportunity to keep track of the ultimate results.

HEMOLYSIS IN THE DIAGNOSIS OF MALIGNANT NEOPLASMS *

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The importance of the early diagnosis of malignant neoplasms and tuberculosis seems a sufficient reason for reporting the observations in the following cases.

The aim has been to study the reaction in as wide a series of various conditions and diseases as possible, and thus to throw as much light as possible on the value of the reaction from a diagnostic standpoint rather than merely to duplicate the work already done with reference to carcinoma and tuberculosis.

With reference to the reversed hemolysis in tuberculosis, the aim has been to study the reaction in early cases, and in those with small localized or latent lesions with slight or no positive clinical symptoms or signs, but giving a positive tuberculin reaction.

Table 1 is a list of the findings in such tuberculous cases studied, the hemolytic reaction being negative in the large proportion in which the lesions were latent or small in extent with no definite clinical symptoms, and reversed when the lesion was extensive or decidedly active in character.

One such case, that of a patient with apparent involvement of the mediastinal glands but with no definite symptoms other than an occasional temperature of 0.5 degrees at times, was studied both before and during tuberculin treatment. Before treatment there was a tendency toward an unstable condition of the red corpuscles with reference to normal serums, but not sufficient to produce a typical reversed reaction in any examination, a number of examinations being made both before and during the treatment. After three or four weeks' treatment with increasing doses of tuberculin, the corpuscles become more stable, and in all subsequent examinations reacted exactly as normal corpuscles. No patients giving a typical reversed reaction were treated with tuberculin and the blood examined subsequently, so this single case may or may not be significant, but the behavior of the corpuscles toward normal serums after the treatment was well under way was certainly very suggestive.

Thus only the advanced or decidedly active cases gave reversed hemolysis, the others being negative. With the exception of the two pulmonary cases and the case of tuberculosis of the hand, in which the tuberculin test was not made, all gave a positive tuberculin reaction. The pulmonary case failing to give the reversed hemolysis was that of a patient 70 years of age. The clinical diagnosis was carcinoma of the stomach, and a gastroenterostomy was performed. The case came to autopsy one week later, when duodenal ulcer was found. Old tuberculous cavities the size of a goose-egg and caseous nodules were present in the lungs.

TABLE 1.—TUBERCULOUS CASES

Character of Cases.	No. Cases.	Reversed Reaction.	Negative Reaction.
Tuberculous knee	2	1	1
Tuberculous hip	2	..	2
Tuberculous spine, advanced	1	1	..
Tuberculous lungs, advanced	2	1	1
Tuberculous peritonitis	4	4	..
Tuberculosis of bladder	1	..	1
Tuberculosis of hand	1	..	1
Tuberculosis, glandular or pulmonary, slight or no clinical symptoms	30	..	30

The degree of hemolysis occurring varied considerably in different cases, being more marked as a rule in the larger and softer tumors and those showing considerable necrosis, and less in the smaller and harder varieties. Several of the cases above classified as negative showed slight hemolysis late; i. e., after forty-eight to seventy-two hours. The two cases of carcinoma of the rectum giving a negative reaction were not examined microscopically, so the clinical diagnosis was not verified in these two.

TABLE 2.—CARCINOMA CASES

Character of Cases.	No. Cases.	Positive Reaction.	Negative Reaction.
Carcinoma of stomach	16	15	1
Carcinoma of breast	11	9	2
Carcinoma of uterus	7	6	1
Carcinoma of rectum	3	1	2
Carcinoma, others	6	6	0

The hemolysis was not as marked in the cases of sarcoma studied as in many of the carcinoma cases, but with the exception of Case 6 all were of small or moderate size. One other patient was operated on and Coley's fluid given for three months following the operation. Six months after the operation the blood was examined, the reaction being negative. There has been no recurrence, one year after operation. Patient 1 was examined several times during the use of Coley's fluid, the reaction being marked at first and becoming less pronounced with each following examination. Coley's fluid was given daily for about seven months, then twice a week, and again given daily for two weeks prior to the final examination. This final examination showed but a faint trace of hemolysis. The hemolysis in the other cases of sarcoma treated with Coley's fluid appeared to increase slightly with the use of the mixed vaccine, the examination in these cases being made in the early weeks of the vaccine treatment.

TABLE 3.—SARCOMA CASES

No. of case.	Character of Cases.	Reaction.
1	Sarcoma of skin; incompletely removed	pos.
2	Osteosarcoma of knee	pos. sl.
3	Spindle-celled sarcoma; ankle; small	pos. sl.
4	Spindle-celled sarcoma; neck and axilla; half-orange size	pos.
5	Giant-celled sarcoma of knee; small	pos. sl.
6	Spindle-celled sarcoma; abdominal cavity; large mass	pos.
7	Small round-celled sarcoma; neck; small	pos.
8	Osteosarcoma; thigh; removed; metastasis in lung	pos. sl.
9	Small round-celled sarcoma; groin; small	pos.

Two cases of endothelioma were examined, hemolysis occurring in each. One was an endothelioma of the meninges, the other of the peritoneal cavity.

No benign tumors showed hemolysis.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

Extracts of the tumor tissue in normal salt solution failed to hemolyze in a few cases of carcinoma, but the hemolysis was somewhat more constant with the extracts than with the patients' serums.

The hemolytic test was not affected in any way by vaccine treatment in the few cases studied, except possibly by tuberculin and Coley's fluid, as mentioned.

Table 4 shows the results of the hemolysis test in a variety of conditions, with the number of each:

TABLE 4.—HEMOLYSIS TEST IN VARIOUS CONDITIONS

Character of Cases.	No. Cases.	Positive Reaction.	Negative Reaction.
Carcinoma	42	36	6
Carcinoma removed	2	0	2
Sarcoma	9	9	0
Sarcoma removed	1	0	1
Endothelioma	2	2	0
Benign tumors	14	0	14
Tuberculosis*	43	..	36
Septic infections	35	3	32
Typhoid fever	22	7	15
Lobar pneumonia	6	3	3
Acute articular rheumatism	1	0	1
Tonsillitis	1	0	1
Elephantiasis of leg	1	0	1
Benign stricture of rectum	1	0	1
Duodenal ulcer	1	0	1
Cholecystitis	2	0	2
Cholelithiasis	3	0	3
Actinomycosis	3	0	3
Uremia	1	0	1
Diabetes mellitus	1	0	1
Grave anemia, secondary	1	0	1
Pernicious anemia	2	0	2
Exophthalmic goiter	1	0	1
Streptococcus vaccine	5	0	5
Staphylococcus vaccine	2	0	2
Mixed vaccine (strept. and staph.)	2	0	2
Pasteur vaccine	6	0	6
Tuberculin	1	0	1
Coley's fluid	4	4	0
X-ray	1	0	1
Normal	85	4	81

* Seven reversed reactions.

The normal cases showing hemolysis were all reexamined within a day or two, and no hemolysis occurred a second time in any of the four, as was true in subsequent examinations in these cases, indicating that the positive reaction was due either to some error in technic or to a temporary condition of the serums of those individuals. In many of the malignant cases two or more examinations were made, and in every case showing hemolysis the reaction was constant. The typhoid fever cases showing hemolysis were with one exception all in the fourth or fifth week of the disease, hemolysis in the one exception occurring during the second week.

The technic has not been materially modified from that used by Dr. Crile in his work. A few minor variations have facilitated the work somewhat. Placing the tubes upright for the clotting of the blood and obtaining clear serums has given better results in our hands than slanting the tubes. Corpuscles must be thoroughly washed, otherwise in hemolytic cases enough serum may be left to cause hemolysis of those corpuscles when added to normal serums, thus giving both a direct and reversed hemolysis and tending to confusion. The greatest care must be used in the preparation of all apparatus and solutions; otherwise the results can not be relied on.

CONCLUSIONS

1. The hemolysis reaction appears to be of decided value in the diagnosis of malignant neoplasms. Negative results do not rule out malignancy, but speak strongly against it.

2. The reversed hemolysis appears to offer valuable information with regard to the extent and activity of the tuberculous lesion.

3. Several examinations should be made in doubtful cases.

4. The reaction does not appear to occur in other conditions that would lessen its value in the diagnosis of malignancy.

ABSTRACT OF DISCUSSION

Dr. W. J. Butler, Chicago: I wish to refer to the great difference in the conclusions drawn by different experiments from practically the same results. With Dr. Mefford I examined a considerable number of cases to see what there was of value in the test. This work dates back to Maragliano, who, in 1892, called attention to the fact that the blood serum of patients suffering from various diseases frequently hemolyzed the corpuscles of normal individuals, and also those of other patients. We examined a number of cases, on which we have reported, made up of carcinoma, tuberculosis, typhoid fever, malaria, etc. Among the cancer cases, mostly of the stomach, uterus and breast, of which there were 22, 13 showed an hemolytic effect on the corpuscles that were used—a reaction in 59 per cent. Some of these hemolyzed the corpuscles of other cancer patients. In the tuberculosis cases, 3 of 8 cases showed the hemolytic reaction. One hemolyzed the corpuscles in another case of tuberculosis. I have never seen this reverse hemolysis, if I understand it correctly. As I understand it, it is the hemolytic effect of normal sera on the corpuscles of a tuberculous patient. Possibly the reason I have not seen it is because a comparatively small number of cases of tuberculosis were examined. All the patients were in the advanced stages of the disease. I can not attribute the failure to see it to defects in technic. On the contrary, I would regard failure to get it the best evidence of good technic. Of 5 typhoid cases, 2 gave a strong hemolytic reaction. There were 5 cases of pneumonia examined, 2 of which gave a strong isolytic reaction. In 2 cases of gastric ulcer, 1 of pernicious anemia, 1 of salpingitis, etc., isohemolysis occurred. I noticed that in nearly all instances in which isohemolysis was observed we got isoagglutination. There seems to be some relation between these phenomena. In only 3 among the cases that we examined did we get an isohemolytic action without isoagglutination. For these reasons, the results given by investigators differ widely. If you do not happen to have corpuscles of an individual that will be agglutinated by the sera you are testing, you will usually get a negative reaction. Individuals are divided into three groups, according to the agglutinating effect of their serums on the corpuscles of others. The serum of one belonging to Group 1 will agglutinate the corpuscles of Groups 2 and 3. Group 2 will agglutinate Group 3, but not Group 1. Group 3 will agglutinate Group 2 and may agglutinate corpuscles of Group 3. If you happen to have an individual of Group 3 whose corpuscles are agglutinated by Group 1 and Group 2, you will invariably get a positive hemolytic reaction with the serum of individuals suffering from various diseases, whether tuberculosis, malaria, pneumonia, cancer, etc. I regard the reaction as absolutely valueless from a diagnostic standpoint.

Dr. Frank Smithies, Ann Arbor, Mich.: My work has not been so extensive as that of Drs. Johnstone and Canning; I have not had an opportunity to take up so large a number of cases, nor to test some of the various phases of the technic. In all, I have examined 95 cases as to the presence of hemolysis in various diseases, especially cancer and tuberculosis. Of these, 14 cases were carcinoma, they proved to be so microscopically, by section; 58 per cent. gave a positive reaction; that is, there was hemolysis. Of these, the early cases were not uniformly positive. The late-stage cases were more nearly so, but there were some cases that did not give the reaction. Of 35 patients with diseases other than cancer or tuberculosis, 65 per cent. were negative. I had positive reactions in some of the anemias—2 cases of pernicious anemia, 1 case of Bright's disease, several cases of scarlet fever, and 2 cases of pleurisy; also in 2 patients who had been receiving the Pasteur treatment for hydrophobia. Nineteen patients with tuberculosis in all stages of the disease, were examined; and in only 2 did I succeed in getting the so-called reverse hemolysis. I might say, also, that in these 2 cases I was not quite sure that more experienced men than myself would have called it reverse hemolysis. These 2 cases were late-stage patients. In both there was abundant sputum and small cavities in the lungs. Of 28 clinically normal individuals, one presented characteristically typical hemolysis. The reason for this I can not explain. It may have been due to my inexperience with the reaction. In the paper on the action of crotalus venom, read in this Section, the statement was made that citrated corpuscles are less subject to hemolysis than those which are defibrinated by means of glass beads. I found this to be so, but my observation did not extend over many cases. Heated serum, in my experience, did not give the hemolysis. I believe that while a positive reaction is of great interest, I would not wish to take the serum test in itself as constituting final evidence. I think that there are many cases of carcinoma that do give this reaction, but these could quite as well be diagnosed by other clinical means. Possibly a longer series of cases will alter my opinion.

Dr. H. Noguchi, New York City: Has any study been made to determine if heterohemolysins are also increased in the serum of persons afflicted with malignant tumors? It would be of theoretical interest to investigate whether isohemolysin makes its appearance without being accompanied by an increase in the content of heterohemolysins. What effect will isohemolytic serum have on corpuscles of anthropoid apes?

Dr. H. G. Schleiter, Pittsburg, Pa.: In a series of examinations for hemolysis on 50 patients, 20 of which were subject to malignant disease, I obtained positive results in 15, or 75 per cent. Two of the negative cases were epitheliomata of superficial structures: the 3 remaining negative ones were well established cases of uterine carcinoma, confirmed at operation or by microscopic section. It has been my experience also that syphilitic cases tend to show rather uniformly a reversed hemolysis. This, together with the fact that various other pathologic conditions have, in the hands of different workers, exhibited a positive reaction, would seem to indicate that with the principles hitherto employed, there are so many confusing factors as to make necessary a considerable amount of further study before allowing this reaction anything like a specific diagnostic value—despite the fact that it would seem to have a confirmatory value in instances of malignant disease in the presence of positive clinical data.

Dr. O. P. Johnstone, Pittsburg, Pa.: Regarding the agglutination of the corpuscles and its relation to hemolysis, I have noticed agglutination in many of these cases, but have not observed any definite relationship between it and hemolysis. Many cases showed agglutination with no trace of hemolysis; others showed decided hemolysis with no agglutination. In defibrinating the blood I have ceased using the glass beads. Quite as good results are obtained by simply shaking the tube containing the blood, without the beads, and with less tendency to break the corpuscles or test tube. I have not had the opportunity to study the reaction in many cases of syphilis. I have had a few cases of tertiary syphilis in which the reaction was negative.

Regarding irregular hemolysis in cases not malignant and in normal individuals, I would say that from my experience it seems to be due more often if not always, to some error in technic. We have a good many points for errors to creep in, in performing the test, and must keep our eyes on all of them all the time—the test tubes, syringe, pipettes, salt solution, receptacles for the salt solution, the small tubes in which the test is finally set up, etc. These afford many chances for the introduction of some factor causing hemolysis, in some of the tubes and not others, or in all the tubes. Before we condemn hemolysis as being valueless because of irregular results we should check up carefully every point in technic. With caution and good technic, I feel that the test affords much valuable information in malignant conditions and tuberculosis. I would not advocate it, however, as a final and positive single test in either condition, but as one link in the chain of evidence. We must remember that a negative test does not mean the absence of carcinoma or malignancy, but rather that it speaks against such a condition, about 15 per cent. of such cases, however, failing to give the reaction. I have not studied many cases of epithelioma of the skin. I suspect that here the percentage of negative results of the test will be larger than in the malignant cases studied in this series.

Clinical Notes

CONGENITAL ABSENCE OF ONE KIDNEY

REPORT OF A CASE *

FRANCIS R. HAGNER, M.D.
Professor of Genitourinary Surgery in George Washington University.
WASHINGTON

Patient.—Mrs. H., 40 years of age, was referred to me by Dr. Gerry Morgan on Oct. 27, 1907. Family history was negative save that a sister died from pulmonary tuberculosis.

Previous History.—Patient suffered from diarrhea for thirty years; occasionally she had from eight to twelve evacuations daily. She was the mother of two children. The first labor was instrumental; the second was normal; there were no uremic symptoms either time. She had leucorrhea intermittently. In 1901 patient had excrutiating pain extending to the groin on the left side. This was followed by the passage of fifty-three stones via urethra. There was no blood passed at this time. For the succeeding two years she was practically free from symptoms; then she began to have attacks of pain similar to those experienced at the time the calculi were passed. No calculi were passed, however, nor were any passed since those referred to. In 1904 an ovary was removed; it was reported to me for an inflammatory condition. About March 4, 1907, the attacks of renal colic began to be more frequent; following each, large quantities of pus appeared in the urine, but no calculi were passed. In June, 1907, the patient experienced the most severe attack of pain, sharp, shooting and knife-like in character; this lasted for twenty-four hours, although the patient was given three grains of morphin. The attacks increased in frequency and severity. Just prior to her visit to me she suffered also from inability to void urine and on catheterization no urine was obtained. The first urine passed after these attacks referred to was very cloudy; urination occurred at intervals of fifteen to thirty minutes, and was accompanied by marked burning, but with no sudden stoppage of the stream. Every micturition was more or less painful and the patient was up from three to eight times nightly to urinate.

Examination.—The patient was a very stout woman weighing about 225 pounds; anemic and had every appearance of illness. She was so fleshy and so nervous that nothing could be learned by abdominal palpation. The examination of the urine showed a large amount of pus, a specific gravity of 1016, an acid reaction, a slight amount of albumin and 322 grains of urea in twenty-four hours. On October 29 the patient was examined under ether at Garfield Hospital. The left kidney was palpable, appearing enlarged; it was felt with difficulty as the patient was so very stout. The right kidney was not palpable. The patient was then cystoscoped. The trigone was inflamed but the rest of the bladder was practically normal. The left ureteral orifice was seen, appearing gaping and discharging turbid fluid. It was impossible to find the right ureteral orifice. The left ureter was then catheterized and urine identical with that obtained from the bladder collected. On microscopic and chemical examination there was practically no difference in these urines. A very careful search of the bladder was made but the right ureteral orifice could not be found. I had made such a careful search that I was sure only one ureter was present. An *x*-ray was negative for stone. I though at the time that she only had one kidney.

Under large doses of urotropin and water the condition improved; at least the patient thought that she was more comfortable. About the end of April she had repeated attacks of pain as described before and I felt that possibly opening and draining the pus from the kidney might prolong her life or at least make her more comfortable. Before operating I thought it best to make one more attempt to find the other ureter, so she was cystoscoped again on May 14. The left ureter was catheterized and the collected urine showed an analysis identical to that obtained on October 29. Very careful search revealed no other ureteral opening.

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* Read before the American Association of Genitourinary Surgeons, May, 1909.

Operation.—The patient was operated on on May 19, 1908. The kidney was exposed, incised and about a pint of urine containing pus both free and inspissated escaped. No calculi were found. Drainage was maintained by fixing a tube in the pelvis of the kidney. The firm masses of purulent material passing down the ureter unquestionably had caused the severe attacks of renal colic.

Postoperative History.—After the operation practically all urine escaped into the dressings. Several bladder catheterizations obtained only a few drops of urine. The patient did very well for three days; she then began to vomit large amounts of fluid. A diagnosis of gastromesenteric ileus was made. Secretion of urine continued up to the time of patient's death, nine days after operation.

Autopsy.—On May 28: This revealed the presence of but one kidney. On the right side there was no artery or rudimentary vessel in the location of the renal artery. Careful search was made for an adrenal gland, but none could be found. The large pyonephrotic kidney was removed from the left side, together with the bladder. Careful examination of the bladder revealed but one ureteral opening, namely, the left.

Without cystoscopic examination and ureteral catheterization, I believe that this kidney would have been removed. Although the result to the patient could have been no worse than in this case, it is certainly more satisfactory to have made a correct diagnosis than to have removed a solitary kidney.

1725 N Street.

AN UNUSUAL STRANGULATED INGUINAL HERNIA

F. E. CLOUGH, M.D.

LEAD, S. DAK.

History.—J. T., aged 17, had had an undescended testicle in the lower end of the right inguinal canal since a baby without producing any symptoms. On July 13, while walking along a railroad track he stumbled and fell forward. In attempting to catch himself he felt something give way in the right inguinal region, but after resting for a few minutes, during which time he vomited once, he was able to walk to his home half a mile away. During the next two hours he vomited several times and had a great deal of pain in the region of the undescended testicle which had increased to twice its normal size. When seen three hours after the injury a diagnosis of strangulated hernia was made and an unsuccessful attempt made to reduce it under anesthesia. Immediate operation was then performed.

Operation.—On opening the canal, a hernial sac was located above and behind the tunica vaginalis, the neck of which sac was constricted. On opening the tunica vaginalis, a communication about one-fourth inch in diameter was found leading into the lower end of the hernial sac, so that the intestine which had passed into the tunica vaginalis was constricted both at that opening and at the neck of the true hernial sac. There was no other communication between the tunica vaginalis and the general peritoneal cavity. The hernial sac was separated from the tunica vaginalis and the neck ligated while the testicle, freed from adhesions and superfluous structures, was placed without any difficulty in the scrotum.

The patient made an uneventful recovery and is now doing moderately hard work six weeks after operation.

To Prevent Mosquitoes.—Dr. William Tell Kudlich has brought to the notice of the health board of Hoboken, N. J., says the *Scientific American*, a plan for exterminating the mosquito, which consists in planting mosquito-ridden tracts with arzolla. The plant is a native of Africa. It in a short time covers marshy land with a layer three inches thick, thus both suffocating mosquito larvæ and preventing the living insects from depositing their eggs in the water. The plant is said to have been used with some success in the German colonies of Africa.

AN UNUSUAL CASE OF INTESTINAL OBSTRUCTION

GEORGE W. ELY, M.D.

PITTSBURG, PA.

History.—H. J. F., male, aged 18, stenographer, was referred by Dr. G. A. Speer, Sharpsburg, Pa. There is nothing bearing on the disease in the history previous to April, 1907, when the patient had an attack of acute appendicitis, for which I operated and found a gangrenous appendix with a large abscess. The appendix was removed through a gridiron incision, a cigarette drain and some loose gauze being used for drainage and the wound partly closed by sutures. The drainage was left in for several days and the wound allowed to close by granulations; the process was completed in about six weeks without any unusual features. From that time until the present illness the patient enjoyed excellent health, with entire freedom from pain, bowels moving normally and regularly.

Present Illness.—On April 15, 1909, the patient was awakened at about 5 in the morning by intense abdominal pains, colicky in nature and generalized over the entire abdomen; he had a good stool which alleviated his suffering and he returned to bed and went to sleep; two hours later he was again awakened with similar pains, had another stool, and, feeling better, started for work, without any breakfast. Shortly, however, he had to return home and go to bed owing to the severe pains. At this time he began to vomit greenish-looking material, the vomiting recurring at intervals throughout the day, with no change in character. Dr. Speer was then called, ordered abstinence from food and drink, applied an ice-bag to the abdomen and gave an injection of morphin and atropin. The following day the patient's condition was practically unchanged, except that the vomiting had ceased; the bowels were moved by enema in a satisfactory manner.

Examination.—The next day the patient was referred to me and sent to the hospital, where his condition was found to be as follows: Temperature, 99.8; pulse, 84; respiration, 20; facies indicative of intense suffering, although slightly flushed, patient restless, and tossing in bed, thighs flexed and respiration labored. The abdomen was slightly distended and very rigid and tympanitic over its entirety, very tender to the touch, especially about the region of the navel. Nothing definite could be learned by palpation, while percussion elicited a slight tendency toward dulness in the right lower quadrant. The blood-count showed: reds 4,600,000, whites 11,000. Differential count: polynuclears 70 per cent., eosinophiles 2 per cent., large mononuclears 8 per cent., small mononuclears 14 per cent., and transitionals 6 per cent. Urine: a trace of albumin, a few casts, red and white cells.

Course of Disease.—The patient was placed in bed, put in the Fowler position and an ice-bag applied to the abdomen. No food or drink was allowed and an enema was administered, which was satisfactorily effective. During the following week the patient's condition continued essentially the same, the temperature ranging from 98 to 99, pulse from 72 to 80. The patient had a stool every day as a result of enemas administered. His condition was thought to be one of partial obstruction due to adhesions or constricting bands and operation was not deemed urgent. On April 25, 1909, he was feeling especially well until 4 in the afternoon, when he began to vomit fecal matter, became enormously distended, and suffered intense pain. His temperature dropped to 97.6 and the pulse went to over 100. No gas or feces could be obtained from the bowels by repeated enemas. The vomiting persisted.

Operation.—At 7 p. m. the abdomen was opened to the right of the median line, a little below the umbilicus, for here dulness could now be detected. As soon as the peritoneum was opened, liquid feces poured out with a gush; probably three pints or more were evacuated. It was then evident that there was an opening into the bowel, which was sought for. In doing this a loose piece of gangrenous intestine was encountered at the bottom of the cavity. It was about ten inches long and had the mesentery attached. After this was removed the proximal end of the divided intestine was brought to the surface and anchored there; a prolonged search was not made for the distal end of the intestine, as the patient's condition would not warrant overmuch trauma. The cavity left in the abdomen was large, and was completely walled off from the general peritoneal cavity by a firm wall of plastic material, incorporating in its sides some intestine and omentum. It was packed and drained and the skin wound partly closed.

Postoperative History.—The patient reacted very nicely from the shock of the operation, and for several days progressed favorably, but on the ninth day he had a severe hemorrhage from the depths of the wound, which was repeated at intervals, and he finally succumbed on the fourteenth day following operation from exhaustion. An examination of the abdomen after death showed a large cavity, effectively walled off from the general peritoneal cavity, into which opened both the proximal and distal ends of the intestine; and there was nothing present to give a clew as to the immediate cause of the obstruction, that is, as to whether it was due to bands, adhesions or a volvulus.

The interesting and unusual feature of this case is the fact that, although strangulation had taken place in the intestine so complete as to cause a slough *en masse*, yet there had been a stool every day since the beginning of the illness, the longest period between stools having been thirty-one hours.

It would be interesting to know just at what time the strangulation and separation took place; probably during the first part of the sickness. The proximal intestine apparently emptied its contents into the cavity, and when an enema would be given it would distend the distal portions, allowing the cavity thus to empty itself. The final, fatal obstruction was probably due to an obstruction in the distal end blocking the entire intestinal canal, producing a reverse peristalsis.

7105 Frankstown Avenue.

CYCLOPEAN MONSTERS

SOME GENERAL OBSERVATIONS, WITH REPORT OF A CASE

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CHICAGO

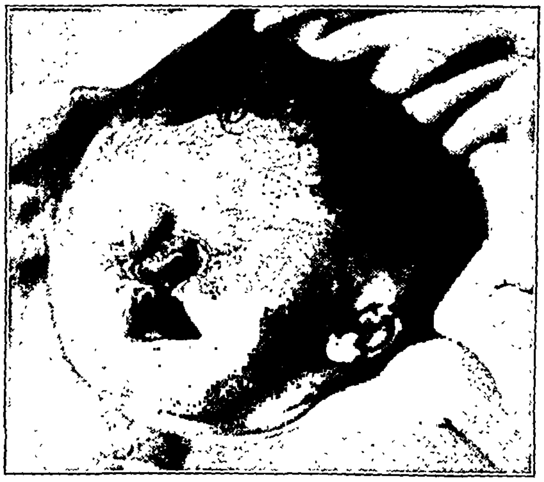
Many of us have seen cyclopia either among the lower animals, such as the pig, or in man, and not a few of us have wondered whether such monstrosities were a reversion to some early form in whom there was normally only one eye, or an anomaly due to maldevelopment of the normal two-eyed fetus. Physiologically, it has been determined that without binocular vision man can have little or no idea of depth or comparative distance. With but one eye constructed as ours is everything would appear flat. It would be interesting to examine the data at our command for any evidence of a uniocular man.

On prehistoric foundation, we have the report in the mythology of the ancient Greeks of a race of Cyclops with whom Odysseus tried conclusions. This race of giants very possibly was suggested to the imagination of the Greek by anomalies in Nature such as those we see to-day. The Greek likewise imagined many-headed monsters and beings half man and half beast.

There is no one-eyed stage in the embryologic development of man. Among the lower animals, however, this is not the case. Some of the peculiar embryologic forms called nauplius among the arthropoda have a single median eye-spot, and, singularly enough, an adult form of the same phylum, among the crustacea, retains the single median eye-spot. It is a fresh-water form, commonly found in our small lakes and ponds, and it is given the name "cyclops." Among the higher animals we find these median eye-spots associated with lateral ones in the spiders and scorpions. A median eye is not found normally among the vertebrata. In the frog there is a vestigial eye-spot on the dorsal surface of the head which is supposed to have some connection with the pineal body.

The cyclopean eye in the higher animals and man must be considered, then, as an anomaly, and many theories as to its origin have been presented. Folk-lore attributed it to bestial origin, just as the satyrs of Grecian mythology were considered half man and half beast. Maternal impressions, lack of oxygen, injury *in utero*, action of toxic substances and disease, all have been thought to play a part. Among more scientific students, two main theories have been presented. These may be briefly named the fusion and the germinal theories.

The fusion theory was the first to be advanced. As early as 1832, Geoffrey St. Hilaire[1] believed that in such monsters the more or less imperfectly developed visual organs approached the median line and eventually fused in proportion to the degree of atrophy of the olfactory organs. Later, Ahlfeld suggested that some cases were caused by intracranial pressure resulting in the rupture of the early cerebral vesicle at about the fourth week of embryonic life. He classified these monsters in successive grades, with characters ranging from a mere narrowing of the face with poor nasal development to a very imperfect single orbital cavity situated about the middle of the face, with or without rudiments of one or both eyes above a more or less rudimentary nose.



Cyclopean monster.

Those who believe in the germinal origin of cyclopia think that it is due to some defect in the germ cell occurring before the fifth week of embryonic life. Spemann and Stockard have produced cyclopean monsters at this period experimentally, both by mechanical and chemical means. Spemann[2] ligated eggs of urodele and triton in the two-celled stage and produced double-headed monsters with or without cyclopic defect. If, for example, he ligates at the two-celled stage so that the ligature coincides with the first plane of cleavage, a monster with two equal heads is produced. But if the ligature is placed obliquely to this cleavage plane, one of the component heads shows some degree of cyclopia. Stockard[3] treated artificially fertilized eggs with a solution containing a trace of magnesium chlorid and in this way he has produced cyclopean monsters repeatedly. Wilder agrees with Spemann and Stockard in their belief in the germinal theory, and in discussing the morphology of cosmobia[4] he outlines a theory in which the variations found in cyclopia are shown to be inherent in the germ and to develop along orderly lines. His classification of cosmobia, or orderly living beings, would include:

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[1] St. Hilaire: Traité de tératologie. Paris 1832-1837.
[2] Spemann: Zool. Jahrb. Suppl., 1904, vii, 429.
[3] Stockard: Jour. Exper. Zool., 1907, iv, 2.

1. Cases in which the entire individual or the part involved is less than a normal individual.
2. Normal individuals.
3. Cases in which entire individual or part involved is more than one normal individual and less than two.
4. Separate twins, both normal.
5. (a) Separate twins, one of these a diplopage; (b) cases involving a single part in value between two and three components.[5]
6. Separate triplets, and so on.

Besides the question of the origin of cyclopia, the strange-looking proboscis seems always to demand special attention. This is present in most cyclopean monsters as a long, narrow, finger-like organ projecting from the middle of the forehead just above the median eye. It sometimes shows one or two orifices at its extremity. This is interpreted by most observers to be the frontonasal process which, according to Treves, gives origin to the external nose, the ethmoid, vomer, median portion of upper lip, and the intermaxillary process. In these monsters this frontonasal process is kept from growing down into its proper location by the mechanical difficulty interposed by the median eye and it, therefore, grows outward as a proboscis-like structure. We can readily see, in the light of this explanation, the cause of the cleft condition of the upper lip and palate and the absence of the nose as shown in the illustration of the specimen here reported.

REPORT OF CASE

History.—The patient, N. C., an Irish woman, aged 39, entered the Cook County Hospital, service of Dr. Roehler, Dec. 24, 1907. The house physicians were Drs. Nilsson, Smith and myself. The patient first menstruated at 15 and had had regular menstrual periods since that time. She had given birth to three normal children who were alive and well. She had had no miscarriages and no serious illnesses. She drank beer and whisky to excess. Examination showed a middle-aged woman in the second stage of labor. Her pains were severe, occurring every one or two minutes. She stated that she had been in labor five or six hours. The abdomen was greatly enlarged and a multiplicity of small parts was palpable. Two heart tones were distinguishable, one low down on the right side, frequency 135 beats per minute, the other to left of the umbilicus, 130 beats per minute. Vaginally, the cervix was found fully dilated and a head was felt with the small fontanelle to the right and anteriorly.

Operation.—As there was no advance of the head after two hours, the patient was anesthetized and low forceps applied. A normal female child weighing 4½ pounds was easily delivered. The second child now presented by the breech and was delivered manually to the head when difficulty was experienced. Forceps were applied to the after-coming head and it was delivered. This child did not breathe well on account of malformations of the head and face, and it died after two hours. The placenta, expressed one-half hour later, was found to be double with double membranes. It weighed 2½ pounds.

Description of the Second Child.—This child was a male, weighing 7½ pounds. It was moderately hydrocephalic and in the center of its forehead was seen a more or less fused double eye. The eyelids were scarcely developed, the lower one being incomplete owing to the cleft condition of the palate and upper lip. The pupil was incompletely double, the lateral diameter being three times as great as the vertical. A snout-like projection measuring 3.5 cm. in length and 1 cm. in width was seen springing from the middle of the forehead just above the median eye. In the center of the distal end was a small opening. A postmortem examination (Dr. E. R. Le Count) revealed nothing abnormal outside the head. The single orbital cavity, the absence of the olfactory and optic nerves and optic chiasmus make the brain specially interesting, and a more extended study of this part of the specimen will be published by one skilled in anatomic work.

Thanks are due to Drs. Smith and Nilsson for permission to report the case.

365 East Fifty-first Street.

THE MUSCLE INDICATOR*

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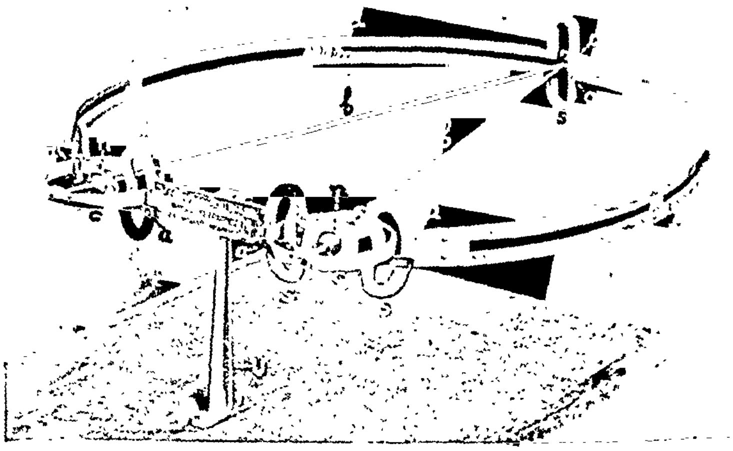
In the Section on Ophthalmology at the 1908 session of the American Medical Association I presented a rough wire model of the instrument which now appears



The circle, *d—n—c*, is the primary isogonal circle, in the plane of which should always lie the two horizontal retinal meridians, *c* and *c*, and the two visual axes *b* and *b*. The center of rotation in each eye is represented by a ball-and-socket joint, *n*, through which the visual axis, *b*, passes on its way from the center of the macula out into space. The wire representing the visual axis of each eye consists in part of a tube by means of which it can be shortened or elongated. The two wires at their distal ends can be fastened by a hook-like arrangement so that they may not come apart while lying or moving in the horizontal slot, *d—c*. The vertical slot, *s*, in front is supplied with two clips, *a* and *a*, so that, when these are in place, one visual axis can not rise higher nor fall lower than its fellow, when the point of view is straight-forward. Turn the upper clip, *a*, to one side then one visual axis may rise above the other, or turning the lower clip, *a* to one side the one visual axis may fall below the other. In the first instance there would be shown hyperphoria or hypertropia, and in the last, cataphoria or catatropia. In both instances one visual axis has been allowed to leave the plane of the primary isogonal circle. When the four clips, at the slightly curved slots behind, are in place, the horizontal retinal meridians can not leave the plane of the primary isogonal circle. Turn the two outer clips to one side, leaving the two inner clips in place, the two horizontal retinal meridians can be tilted down-and-out, thus showing plus cyclophoria or plus cyclotropia. Leaving the outer clips in place and turning the inner clips to one side, the horizontal retinal meridians can be tilted down-and-in, thus showing minus cyclophoria or minus cyclotropia. In either instance the horizontal retinal meridians have been allowed to leave the plane of the primary isogonal circle.

If the second point of view lies on the primary isogonal circle, the visual axes and the horizontal retinal meridians shift in the plane of this circle while the plane itself remains stationary. If the second point of view be on some secondary isogonal circle, but directly above or below the first point of view, the primary circle is rotated to the position of the secondary circle, without any change of position of either the visual axes or the horizontal retinal meridians in its plane, the rotation being on the chord, *n-n*, connecting the centers of the two eyes, which is the only axis of rotation for the planes of all the isogonal circles.

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[4] Wilder, H. H.: Am. Jour. Anat., December, 1908; criticized editorially, THE JOURNAL A. M. A., March 16, 1909, lii, 776.

[5] The case here reported is one of separate twins in which one of them showed cyclopic defect, the other being normal.

* Read in the Section on Ophthalmology of the American Medical Association, at Atlantic City, June, 1909.

in a perfected form (see illustration). I have named it the "muscle indicator" and claim for it that it will show every phase of any ocular muscle or combination of ocular muscles, normal or abnormal. It answers, I believe, every question that can be asked concerning the ocular muscles, and, moreover, concerning the brain centers that control the ocular muscles; in fact, it is, as it were, a talking machine, but it has to talk through me.

The device is of use not only in teaching, for it makes teaching of the ocular rotations perfectly easy, but also in the management of intelligent people suffering from muscle errors. There is no difficulty in showing the patient what the condition is and what ought to be done for its relief.

The circle is one of many million, all in the same plane. The primary circles, which this one circle represents, must all lie in the same plane, but only one can exist at a time. The circles formed in that plane are constructed through three points, two of them forever fixed and the other changeable. The two fixed points are the centers of rotation of the eyes, and the changeable point is the point of fixation. The next point of fixation may be inside this circle, or it may be beyond it an inch or any other distance to infinity. There are just as many circles possible as there are points in space directly ahead on the line of intersection of the vertical and the horizontal fixed planes of the head. Not only have we millions of possible primary circles, but millions of secondary circles also, all passing through the rotation centers of the two eyes and their planes intersecting in the line connecting these centers. Every object in space lies on one of these circles, and in studying the rotations of the eyes it is easy to see how they are effected and what the condition is. The law that controls the ocular muscles is simplicity itself. The superior and inferior recti must keep the visual axes in the plane of the primary circle. The lateral muscles must regulate those in this plane. The obliques must forever hold, except under abnormal conditions, the horizontal retinal meridians in the plane of this circle, as well. If one visual axis rises above that plane (hyperphoria) it is shown on the instrument. If the retinal meridian tilts it is shown. There is not a possible state of the ocular muscles but what this instrument can show, and there is not a nerve center that controls the ocular muscles that can not be demonstrated by it.

THUMB-LIKE EXCRESCENCE ON THE TONSIL

EMIL AMBERG, M.D.
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Mrs. C. S. H., aged 42, consulted me in June, 1909. The right tonsil showed a thumb-like excrescence at the lower posterior border. Before the tonsil was removed this excrescence annoyed the patient considerably. The patient coughed in the morning and as soon "as the air changed." On June 9 I removed both tonsils, in Harper Hospital, under local anesthesia, anesthetizing the surface, and also injecting in the usual manner into the surrounding tissues a 0.5 per cent. alypin solution in suprarenalin solution, about 1 to 10,000, which were sterilized by boiling. The tonsils were enucleated. The left tonsil does not show any excrescence. The patient seen in my office in September looks much better. She reports that the annoying local symptoms have disappeared and that her general condition is much better.

270 Woodward Avenue.

INTRACANICULAR FIBROMA OF THE FEMALE BREAST UNDERGOING SARCOMATOUS CHANGE

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CHICAGO

Fibromata of the female breast are sometimes pure and sometimes in combination with adenomata, sarcomata, myomata and cysts in the form of fibrosarcomata, fibromyomata and fibrocystomata. Fibromata develop mainly from proliferation of the connective tissue surrounding the acini and the small excretory ducts (pericanalicular fibroma). They are most frequent in young persons from seventeen to thirty years of age and are very rare beyond the fortieth year.

Pure fibromata usually form in even, solid nodules of about the size of a walnut or a hen's egg, which, in contradistinction to carcinomata, are freely movable within the breast. In rare cases, especially when combined with cystoma, fibromata attain considerable size. Schimmelbusch classifies cystosarcoma, phylloides (J. Muller), myxoma intracanalicular (Virchow) and serocystic sarcoma (Brodie), all of which tumors may attain an enormous size among the benign fibroadenomata, and thinks they should be distinguished from the true cystic sarcomata.

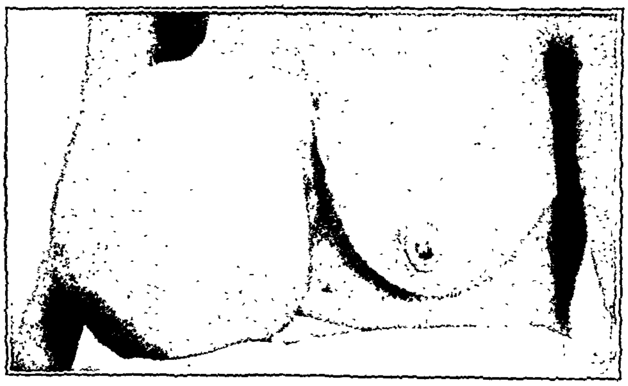

Fig. 1.—Photograph of patient showing tumor and its effect on the skin and fascia.

The tumor to which I wish to call attention I should properly include in the second and third variety of true fibromata of the breast, the first being a tuberous, localized form of connective tissue tumor about the size of a walnut, typically encapsulated, its primary origin being in the interacinous connective tissue.

The diffuse form, with general enlargement of the breast, simulates a mastitis in which the glands or ducts are separated from each other by excessive connective tissue, which predisposes to cyst formation. This cyst formation may be only the dilated gland itself or the duct or a combination of the two caused by an obstruction to its outflow. The intracanicular form grows to a considerable size and the proliferated connective tissue pushes its way into the acini of the gland, carrying the basement with its overlying cells before it.

Patient.—Mrs. B. G., aged 54, housewife, was admitted to the hospital June 17, 1908.

History.—Father died thirty years ago from an unknown cause. Ten years ago mother died, cause unknown. Has two sisters and one brother all living and well. Patient has had four children, all boys. Two dead, one one hour after birth; the other about three years after. The other two are living. The last baby was a forceps delivery, other three normal

Menopause at 52 years; previous to this time menstruation was perfectly normal in every respect. Three or four years ago she had her first attack of pleurisy affecting at that time only the right side at base of lung. Two or three times she has had repeated attacks on the right side. Last spring she had pleurisy on the left side for the first time. From childhood she has suffered from migraine.

Present Illness.—The patient stated that about ten years ago she noted a hard nodular lump about the size of a hen's egg located in the upper and inner quadrant of the right breast. It was absolutely painless and she paid very little attention to its growth. About fifteen months ago she became bed-ridden with a severe bronchitis. After she had been ill for about a week she noticed for the first time that her entire right breast was getting larger. She was unable to give any definite information as to whether or not the enlargement was due to an increased growth of the lump noted ten years ago. She thinks, however, that the enlargement was general, progressive and independent of the small nodular growth. The right breast became larger and larger until it has reached the present size. It had always been painless, and it had never given her any trouble other than its weight. The patient stated that she believed it became somewhat smaller about four weeks after it began to increase in size, but soon after she noticed that it began to again increase in size. She had lost very little weight in the last ten years.

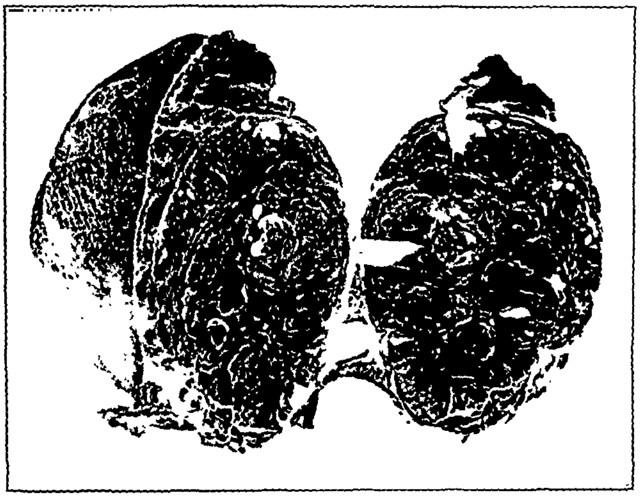

Fig. 2.—Cross-section of the gross specimen showing dense columns of connective tissue with cysts interspaced and filled with colloid material.

Examination.—General appearance was that of a frail, poorly nourished woman, past middle life, complexion dark, hair slightly gray. The left breast was small and atrophied; negative as to tumor infiltration. The right breast was symmetrically enlarged to about the size of her head; the nipple was not retracted; on the surface could be seen enlarged veins; no pulsation. The skin over the breast was slightly red in color. There was no lymphatic enlargement.

Operation.—Anesthesia, gas and ether, Dr. Morrill. On June 20, 1908, an amputation of right mamma was done under gas and ether anesthesia. The typical Halstead incision was made, extending from the axilla around the breast; skin was then undermined and breast shelled out. The axilla was then explored; no glands palpable. Tumor was cystic in places. Skin was closed with a running silk suture; rubber drainage tube inserted in axilla and at lower angle of incision. Wound was sealed with colloidion and dry dressing applied; arm bandaged to chest in flexion. Patient returned from operating room in good condition.

Histologic Report.—I am indebted to Dr. Herzog for the following report: The tumor after removal was not dissected, but was left undisturbed and fixed in Kaiserling's fluid No. 1. After having been therein for several days it was divided by a median section along the long axis and then placed again in the fixing fluid for several more days. After the return of the natural color, in 80 per cent. alcohol, it can be seen in the cut surface that the main mass of the tumor is made up of solid tissue which in arrangement and appearance looks very much like a fibromyoma or a fibrosarcoma. The solid parts, however, contain a number of spherical or oval spaces, which are filled with a material which was more or less fluid before hardening, but which is now semi-solid or gelatinous.

Microscopic examination of sections shows that the most characteristic parts of the tumor contain glandular spaces lined by columnar or cuboidal epithelium. These gland spaces look exactly like those seen in the mammary tumors usually called fibroadenoma or *fibroma peri- et intra-canaliculare*. Some of the spaces formed by the epithelial cells have become very large and cystic, of a size rarely or never seen in an ordinary fibroadenoma. These cysts contain a hyaline material which does not stain as deeply as true colloid does, but moderately deeply like ordinary hyaline. Where this material is present the cystic spaces are lined by very flat epithelia, their diminished size being evidently due to pressure. The connective tissue surrounding the gland spaces generally forms powerful tracts. In fact, the great mass of the tumor is composed of connective tissue formed mostly of spindle cells and fibers. In some parts, the spindle cells have evidently proliferated rapidly and have formed a tissue decidedly embryonic in character.

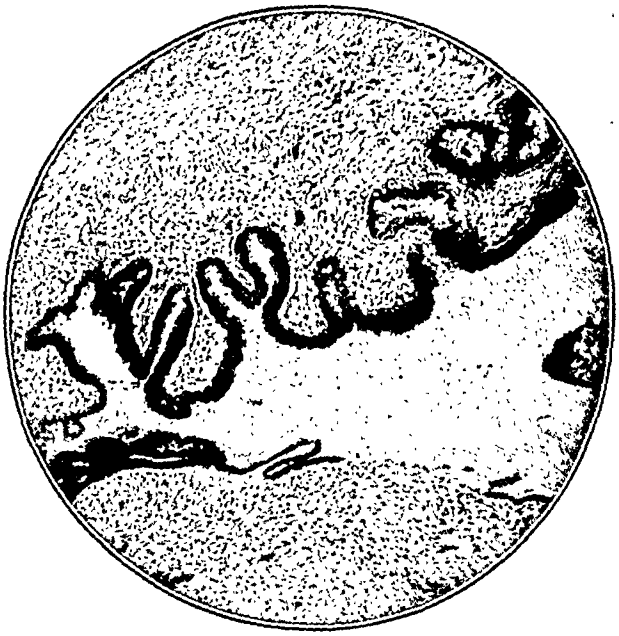

Fig. 3.—Microscopic picture (1/7 objective) of connective tissue bundles (showing the overlying acini) undergoing rapid cell multiplication.

On the whole, the tumor creates the impression that we are dealing with an original fibroadenoma which has undergone a sarcomatous metamorphosis or metaplasia. The marked destructive tendencies of a pronouncedly malignant tumor, however, are missing.

Gross has established the following facts in regard to the permanent cure of sarcoma based on 92 cases: Twelve patients remained well 4 years or longer, 42 had local recurrence, most of them (57.7 per cent.) within 6 months, on the average, at the end of 10 months and a half in some cases, after from one to four years. The tumors in young persons, and those in whom the gland is active, showed a pronounced tendency to recur and less to form metastases, while the reverse was true in sarcoma of a mamma that was undergoing involution. As compared with carcinoma of the mamma the sarcoma inclines more to metastases and less to local recurrence. The lymphatic glands are affected much more frequently (67.4 per cent.) in carcinomata than in sarcoma (0.64 per cent.). According to Horner's statistics, 76.92 per cent. of the patients operated on remained free from recurrence longer than 2 years, 61.54 per cent. remained cured. Paulsen states that 75 per cent. of his patients, and those collected, remained well after 5 years and 25 per cent. died of metastases.

AN IMPROVED EYE-BANDAGE

C. W. TALBOT, M.D.
SPOKANE, WASH.

There are many good eye-shields on the market today, yet the one I show in the accompanying photographs I have found superior to anything I have seen.

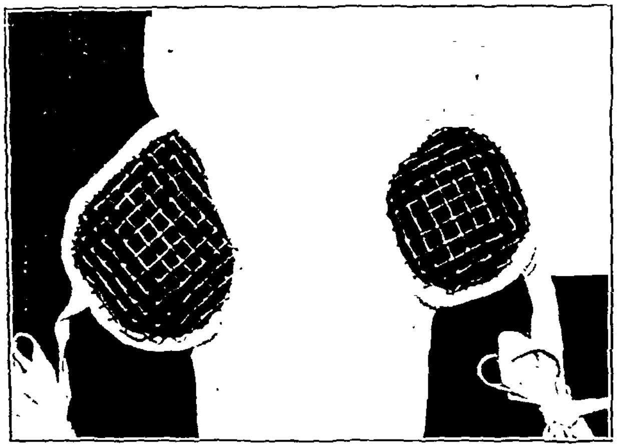

Fig. 1.—Improved eye-shield, universal form.

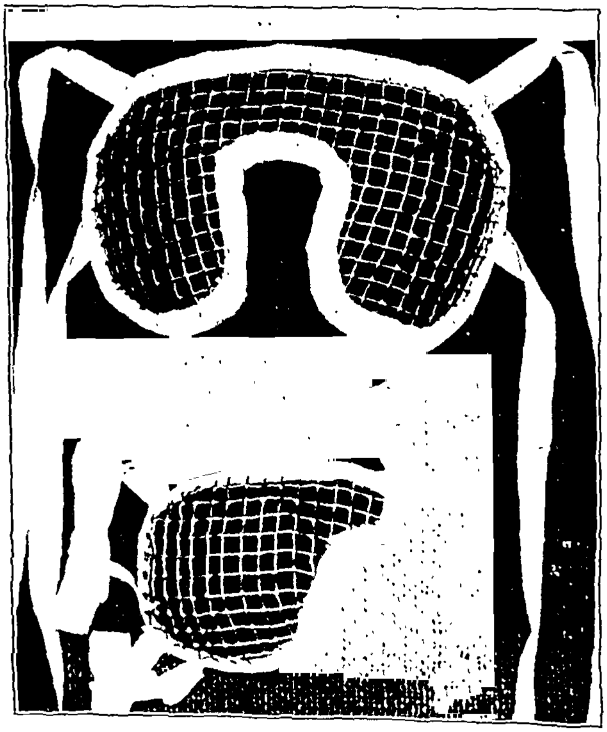

Fig. 2.—Improved eye-shields, both eyes and one for the right eye.

This eye-shield is made of quarter-inch galvanized wire netting cut to shape and the raw edges covered with cotton, after which it is bound with ordinary cotton or linen tape and the ties sewed on.

The advantages are that it is easily put on and off by the patient; that the tension is readily changed, permitting compression as well as immobilization of the lids, and that fresh gauze can be put in as often as it becomes soiled, which is quite an item when the patient is not seen daily; that it can be readily cleaned by the patient with a little soap and a hand-brush and is easily sterilized, and that it does away with the hot bandages around the head and is, therefore, much cooler, more sanitary and altogether more pleasing to the patient than any form I have ever used. I have been using this form for over three years now and find it very satisfactory, indeed.

The universal form (Fig. 1) is suitable for either eye, but for purposes of compression the rights and lefts are more desirable.

Figure 2 shows a double shield above and below it one for the right eye.

Figure 3 shows the right shield (without gauze) in position, the lower tie passing under the right ear and the upper tie above, one passing through the loop and being tied on the left side of the head; the shield can readily be loosened or tightened to suit the comfort of the patient.

The shield can be bent in any shape so as to fit down snugly over the nose and cheek; it is deep enough to permit the use of a large pad of cotton gauze.

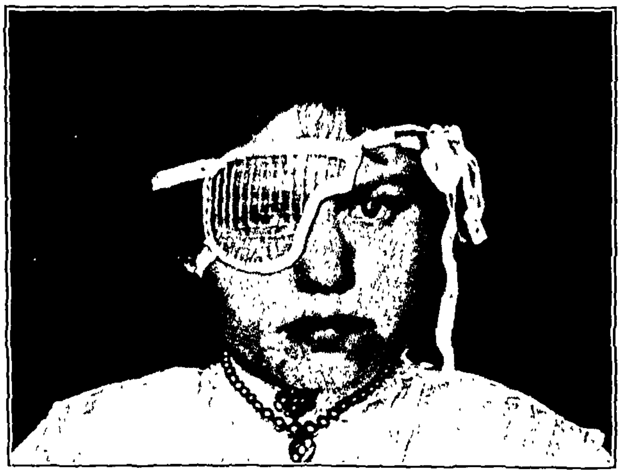

Fig. 3.—Patient wearing eye-shield.

As a postoperative bandage this shield is invaluable; in purulent conjunctivitis it can be used without gauze and yet protect the eye from being touched, thereby preventing the infection from being carried to the other eye —a very important point to consider in children.

Since the cost is trivial a shield is used only once.

211 Empire State Building.

A METHOD FOR COUNTING BACTERIA IN THE BLOOD

FRANCIS T. B. FEST, M.D.
WITH THE COLLABORATION OF
H. J. HOAG, M.D.
LAS VEGAS, N. M.

The pipette, in use for the leucocyte count with the Thoma-Zeiss hematocytometer or its modifications, is filled in the usual manner, blood being drawn to the 0.5 mark and the melangeur filled to 11. For the dilution we use a solution of 2 per cent. sodium citrate and 1 per cent. of sodium chlorid in water. Of this diluted blood, 1 milligram is measured with an accurate hematocrit scale or a specially marked, fine pipette. This milligram is distributed over a warmed slide in fine drops deposited in a row. About eight droplets usually will use up this quantity of dilution.

It is of the greatest importance to make the droplets as small as possible. The drop-films are allowed to dry well. They are next fixed with a mixture of 3 per cent. acetic acid in alcohol. No heat must be applied. When fixed thoroughly the films are stained intensively with borax-blue. Several slides are prepared in the same manner.

The number of bacteria in each film is counted separately and all added together. This counting will be easy if the films are small. The sum total of the bacteria is divided by the number of slides used and multiplied by twenty. The result is the number of microorganisms in 1 milligram of the blood.

While borax-blue is not a differential stain, differentiation must be done in each case before the count is undertaken either by suitable special stains or cultures. It is best for the differentiation of tubercle bacilli or pneumococci to apply the Gram- or the Spengler-stains. In order to obtain a large quantity of the blood-dilution, the diluting can be done in a properly graduated tuberculin syringe. This enables the beginner to prepare a large number of slides and to select those with the finest drop-films.

It stands to reason that it is well to prepare and to count a fairly large number of slides, because the average obtained thereby will give a more exact result than if only few slides are counted.

National Pythian Sanatorium.

Therapeutics

PSYCHOTHERAPY

Discussion of this broad subject is not attempted here, but it is intended simply to point out the necessity for a better general understanding of the subject by physicians. No one to-day questions, if there ever was any question, the power of the mind over the body, and its interpretation of functional disturbances, abnormal conditions [illegible] processes. It is true that the so-called [illegible], or condition, is on the increase, this of necessity from the kind of lives that are led in civilized regions. It is also a fact that with a better understanding of disease and pathologic processes unavoidably mental conditions occur that so misinterpret functional disturbances that the physician is fooled, by the patient's description of symptoms, into the belief that pathologic processes are actually present. Such patients naturally are not benefited by specific treatments directed toward the pathologic process supposed to be present, and consequently pass from physician to physician, and are finally cured by some one of the many unscientific methods of appealing to the mind.

It should be understood in interpreting apparently wonderful cures by mental impression that, in the first place, such cures have always occurred since there has been a history of man. Also, there is no disease or condition, however conclusive the diagnosis and hopeless the prognosis may be, but that occasionally has shown miraculous recovery. Therefore, there is no unscientific treatment of patients but that has had its ordinary cures and its apparently wonderful cures, but only the celestial recorders know the hundreds and thousands of failures and the dire disaster that has been caused by such unscientific methods.

All successful physicians appeal more or less to the minds of their patients in establishing a cure, recovery or improvement of any disease or abnormal condition that may be present. Most physicians use tangible means to aid in securing mental improvement and causing mental strength in patients who need mostly mental treatment. Such methods, whether by placebos, electricity, baths, physical therapies of varying kinds, climate, travel, change in diet, or periods of rest, have all done good work for years.

It has been almost an insult to a patient to tell him or her, and generally her, that there was nothing the matter with her except as she thought it. This was not only so considered by the patient, as she "guessed she knew how she felt," but was also considered an insult by the family, and another physician would be obtained who did not so bluntly tell the truth. The development of an age in which the patient and her family must know all of the scientific and pathologic truths in regard to her condition, and the various mind curists having lauded their methods of treatment at this same time (self-drugging and "patent medicine" taking, and the strong harmful ingredients that were contained in "patent medicines," all being described to the public as vicious) have made the patient and the family more willing to be told that nothing is the matter with her except mental disquietude, or psychologic misinterpretation. Therefore, the opportunity for the growth of mental training, which has had its basis on splendid study and research by the scientists in this line, has arrived, and the necessity for such scientific treatment of neurotic, nervous, neurasthenic and hysterical patients is unquestionable.

Unfortunately, until the lay education has gone a little farther, patients and their families are more willing to be told that they need no treatment, other than mental, by unscientific, uneducated and mercenary practitioners than by the honest physician. They are also more willing to try a drugless treatment of disease prescribed by a quack than they are when such treatment is prescribed by a physician. This, however, is only a stage in educating the public to recognize the ability of the trained physician to treat, improve and to cure generally his patients, mentally and physically, more rapidly and more surely than any non-religious, [illegible] religious, half-medical, dietary, non-dietary, or sheer mercenary quack on earth.

There is danger in all mental treatments, whether exercised by those of particular kinds of faith, practicing under particular kinds of title, or whether by so-called church movements in which men educated in lines other than medicine take up the treatment of medical conditions. It is perfectly absurd to consider that disturbance of a kidney is medical and disturbance of a mind religious. There is no question that religious or mental ecstacy or self-hypnosis developed in any way by church movements, or other, may prevent a patient (or even cure him) noticing disturbances that are functional, pain that is neuralgic or even symptoms of organic disease, but as the religious healer or curer, or mental trainer has not studied pathology, and the patient has not studied pathology, and neither of them can differentiate the indications of a serious, or even contagious, disease from mental crookedness causing telegraphic messages or even wireless messages to different parts of the body, such methods of treatment are dangerous to individuals and to a community.

The clergyman, who visits a home where there is sickness, in conjunction with the physician, bringing hope, mental help, good will and cheer to the patient and family, makes the treatment of the illness ideal. A physician who does not treat, aid or help the mental part of his patient's entity should not practice medicine. On the other hand, the clergyman who attempts to treat patients who claim to be ill, without an examination and diagnosis having been made by a physician, is criminally careless, and should no more be allowed to practice in this manner than is a physician allowed to write a prescription without having successfully passed a state examination. Either is dangerous to the community.

It can not be denied that some men, and they may be theologians, have more hypnotic power than many medical men. They are accustomed to control mentally, as well as more or less successfully religiously, their parishioners. They talk forcefully and lead well, and ideally they are in many instances admirably fitted to teach mental strength, but they should study pathology and thoroughly recognize the limitations of their ability to cure, should always have a patient examined by a physician before they attempt to treat him or her mentally, and should never so exalt or stimulate individuals of a family to the point of physical and medical neglect of other members of that family who may need the care of a physician or surgeon.

It is also perfectly true that while some medical men have force sufficient to control hypnotically and to give mental strength to the patients whom they are treating, others have not such forcefulness, and they, in individual instances, should call to their aid a man who is able to train the patient's mind.

The main point that it is desired to enforce is that physicians as a whole are entirely unqualified scientifically to treat a patient psychically, i. e., psychotherapeutically. Men who have devoted years to scientific investigations of mental training and to the study of the human mind and to the management of patients who are ill mentally only (and by this is not meant insanity) should be consulted when a patient needs psychotherapeutic treatment only. Physicians should prepare themselves by a careful study of the science of psychotherapeutics, beginning with its fundamentals and then work gradually up to the actual practice before they are ready to treat psychologically to the best advantage of the patients. The best medical schools, hospitals and dispensaries are beginning to instruct the students and internes on this subject. Unfortunately, the clinical material that comes to public institutions is not mentally similar to patients whom one sees in private practice.

Patients who are neurasthenic are not necessarily best treated psychotherapeutically. While the majority of them do well so treated, and all may need some of such treatment, the diagnosis of neurasthenia by no means necessarily means that there is nothing the matter with the patient but mental disturbance. Loss of weight is always an indication that the patient is below par, and it certainly should be the physical and mental object of the physician to build this patient up to normal. Mental fatigue certainly predisposes to physical ailments and an exaggerated interpretation of physical ailments. Consequently, patients in whom such mental fatigue is diagnosed should be mentally rested, and not mentally stimulated to believe that nothing ails them but as they think it.

The interpretation of the self-same injury to sensory nerves varies greatly in different individuals. Consequently, to decide that a patient does not suffer the amount of pain he claims he does, because in the physician's or in the layman's experience such injury causes only half the amount of pain that is claimed, is unfair to the patient. It may be true that the pain is grossly exaggerated, but it should be remembered that neither the physician nor the bystanders really know, and the patient should be given the benefit of the doubt. It is, however, perfectly true that a given individual may apparently suffer twice the pain at one time which he has suffered at another time from the same condition or injury. This may be due to mental tire, to mental excitation, or to loss of mental control. If acute pain is actually suffered, mental treatments, even to the attempt to produce hypnosis, are of but little avail. The mental stimulation, education and treatment should be given during the interims from actual pain.

The Weir Mitchell rest cure of neurasthenic and hysterical patients is of vast benefit in many instances, of some benefit in most instances, but occasionally signally fails. It requires the most careful discernment and discrimination to decide whether, in the individual instance, the patient should receive the "rest cure." At times patients who are introspective, who are not mentally weary, and whose nutrition is pretty good, are positively injured by such treatment. Such patients need mental training given by some one who is educated in that line of treatment. Other patients, with symptoms of physical and mental debility, and who are surrounded with worries and frets, recover only by prolonged rest, and best in a sanatorium prepared to treat such patients. Such treatment, however, is the most successful when the attending physician and the physician in charge recognize the power of physical treatments, mental stimuli and mental training more than the mere rest and medicine.

If the physician decides that the patient has no organic or serious functional disturbance and that the symptoms are produced by mental mistakes, and he decides that he has the mental forcefulness, power, understanding, and training sufficient to treat this particular patient, it is wise first to explain to the patient the nature of the condition and the reasons that certain symptoms occur, their lack of seriousness, and the absence of any pathologic excuse. Individual disagreeable symptoms should be modified by any physical or medicinal treatment that seems necessary, such medicinal treatment being stopped just as soon as possible, and the patient's mind trained to overcome the disturbing symptoms that called at first for treatment. The mind of the patient should be trained to think in lines that are not personal, and to take up lines of thought or study that will keep healthy parts of the brain so interested or satisfied that the parts that have to do only with physical sensations are less important, overlooked, or controlled. It is well also to arrange the patient's life so that the day will be busy. All this part of the treatment must be individualized to change the thoughts, habits, and interests of the individual patient. It is perfectly true that placebos and various physical treatments, such as varying kinds of electricity, must be used more by the physician than when the same patients are treated by quack methods, because the latter methods are surrounded by mystery and the mind of the patient receives the stimulus of hope and recovery because the methods are so strange and mysterious. This is only going back in mental beliefs to the dark ages, and man has not even now overcome his association of disease and cure with the Devil and magic.

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[*For other information see second page following reading matter*]

SATURDAY, OCTOBER 30, 1909

THE CONVEYANCE OF BACTERIA BY SEWER-AIR

For years after Murchison announced, in 1858, that typhoid fever was produced by emanations from decaying organic material, sewer-gas was held responsible for many infectious diseases. The cause of the large mortality from "zymotic" disease in cities by many was traced largely to sewer-gas poison. While other causes were not wholly excluded, to bad plumbing was attributed the principal part in causing "pythogenic" pneumonia, peritonitis, inflammatory rheumatism, typhoid and malarial fevers, croup, diphtheria and many kindred diseases.

According to the germ theory of disease, sewer-air can cause infectious diseases directly only by the conveyance of germs, and the question whether it actually does convey germs has received much attention. Bacteriologic examinations of the air in sewers showed it to contain only a small number of bacteria, and these were common to street air rather than to sewage. These results, coupled with the absence of any reliable indications from the study of epidemics in favor of transmission of infectious agents by sewer-air, led many sanitarians to conclude that the danger of such transmission was small enough to be disregarded. But the recent experiments of Major Horrocks of the English army gave results which served to revive the suspicion that sewer emanations may be the cause of mysterious outbreaks of disease. He introduced known bacteria, such as the *Bacillus prodigiosus* and the *Bacillus coli*, into drainage systems, in the upper parts of which he exposed dishes of culture media. He thus recovered his test bacteria in various parts of the systems, in one case even at the height of fifty feet above the traps, showing that specific bacteria present in traps and drains can get into the air above by splashing and bursting of bubbles and, in some experiments, possibly even from the surface of liquids apparently in quiet motion.

In view of the apparent difference between the results of Horrocks[1] and those of previous investigators (Miquel, Haldane, Laws and Andrewes, and others), Winslow,[2] at the instance of the Sanitary Committee of the National Association of Master Plumbers, investigated the question of bacteria in sewer-air. Winslow's early experiments gave results like those of Horrocks to the effect that bacteria may pass from sewage into the air above and be carried for considerable distances. The proportion of positive results, however, was small and it was determined to use quantitative methods. The bacteria that happen to fall on plates exposed, as in the method used by Horrocks and later by Andrewes, to the air in sewers are not related to any particular volume of air. Winslow used a new method, by which the bacteria in a measured volume of air drawn into large culture-bottles are allowed to settle on media in the bottom of the bottles. Foaming bacterial emulsions were poured rapidly into water-closets and samples of air collected at the crown of the upper trap. Here everything now was favorable for the discharge of bacteria into the air, but, of forty-four liters of air examined, forty-three did not contain any bacteria. One liter showed a group of eleven colonies, derived perhaps from a single infected droplet. The actual conditions as they exist in different plumbing systems were next studied. The pipes were tapped at various places, and in each case ten one-liter samples of air were drawn into culture bottles. In one hundred and ninety-seven satisfactory tests of this kind, forty-eight samples gave bacteria capable of development at 37 degrees C.; only four contained sewage bacteria, and in collecting these samples of air mechanical spraying of sewage took place at the point of collection. The results of Winslow's experiments consequently support Horrocks in so far as they show that bacteria may be ejected from liquids in sewers into the air above, but at the same time they show that the general air of house drainage systems is singularly free from bacterial life.

The sum and substance of the matter seems to be that bacteria may pass from sewage into sewer-air, but only in such small numbers as scarcely to affect its general composition. There is, therefore, little reason to believe that sewer-air needs to be feared as a means of conveying infectious diseases.

THE SPAN OF HUMAN LIFE

It is often asked if men do not live longer now than formerly—if the length of human life is not actually increased? It is evident that two distinct problems may be hidden in this question as it is ordinarily put. The first relates to what may be called the natural term of existence. The duration of a normal life not cut off by accident or infectious disease was placed by the Psalmist at about threescore years and ten; seventy or eighty years is, indeed, to-day commonly reckoned as the normal life.

There seems to be no reason for supposing that within historical times man's natural term of life has materially varied. Like that of the dog or the horse, it is determined by unknown biologic causes. While some statements in old documents might be taken to indicate that in antiquity men lived hundreds and even thousands of years, such assertions appear to be based on wrong interpretations of time-units or on pure fable. It has been alleged that a larger proportion of persons lived to reach the age of 100 years at certain earlier periods than at the present day, but this belief rests on an equally insecure footing. As is well known, the investigation of alleged instances of centenarianism has shown that many of these cases will not stand examination and that some even are examples of deliberate fraud supported by such devices as the substitution of birth certificates.

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[1] Recently the results of Horrocks were confirmed by Andrewes, who used the same methods.

[2] Am. Jour. Pub. Hyg., 1909, xix, 640.

Unimpeachable records of the proportion of long-lived individuals to the total number of persons in the community do not exist for any considerable period. So far as the meager modern statistics go, they indicate that the proportion of 5-year-old children who live long enough to reach their eightieth year is really not greater now than it was at the beginning of the nineteenth century.

Quite different is the answer to the second question implied in the ordinary inquiry concerning an increase in longevity. A new-born child has certainly a better chance of living a long life now than he had even a few years ago. This may be shown in various ways. The remarkable decrease in mortality during the first five years of life is especially well known. In practically all civilized countries a decline in the death rate among young children has been observed and is apparently still taking place.

In Germany, for an example, 290 out of every 1,000 living new-born children died during the first five years of life in 1890, since which year the number of deaths in the same age-group has sunk to 230. It is a matter of common knowledge also that the average mean duration of life has appreciably risen in the last half century and in some countries has increased at a rate of about two years in each decade. In Norway and Sweden, where statistics show the infant mortality to be very low, the average duration of life is now as high as 52.25 years!

A particularly important measurement of improvement in the conditions of life consists in the determination of the lengthening of the working period, for example the years between 15 and 60. There seems to be taking place a steady increase in the number of persons able to live through this important span. In Sweden and Norway the average number of years lived by each 15-year-old child was 35½ (out of a possible 45 on this method of reckoning) at the beginning of the nineteenth century, while it was 38½ at the close. In Germany an almost equally great improvement is said to have occurred within two decades. It is not, therefore, alone in the earlier years of life that a genuine reduction in mortality has taken place. The average duration of human life is greater, even though the natural term of existence has not been altered. In this sense human life may be said to have been materially prolonged within historic times.

PHARMACOPEIA REVISION

We publish this week under "Correspondence" a letter calling attention to the reports on the Pharmacopeia of three committees of sections of the Association.[1] As our correspondent remarks, these reports furnish much food for thought to physicians interested in the development of sane drug therapeutics; and what physician is not interested in this subject? The recommendations contained in these reports came from men actively engaged in the practice of medicine—those, in fact, who are bearing the brunt of the battle against disease. Their opinions are worthy of careful consideration even by those who are not especially interested in the purpose for which the reports were primarily prepared. The fact that so many of the members of the Section on Ophthalmology, for example, state that they have found certain drugs of very distinct value and others of little or no use is an item which should prove of great interest to their colleagues. The primary object of these section committees is to collect material which will indicate to the Committee on Revision the desire of the medical profession concerning the scope of the Pharmacopeia.

The reports have a special significance, as they show a tendency on the part of physicians to assume again their share in the important work of revising the Pharmacopeia. That physicians have in recent years greatly neglected this is a matter of common knowledge; that the result has been unfortunate is also well known. The chemical and pharmaceutical part of the work of revision has been exceptionally well done, but the medical part (which, in the words of the founders of the Pharmacopeia, should be "to point out those articles of medicine which they (the physicians) shall ordinarily employ") has been less successful; this is sufficiently evidenced by the protests which have been made against the retaining of many of the preparations which were admitted less than five years ago.

The methods pursued concerning admissions by the last Committee on Revision are not such as to appeal to the medical profession; the committee was all too willing to yield to what was represented to be the wishes of physicians and evidently took little trouble to inquire how extensive or how well founded these wishes were. In fact, a member of the Committee on Revision expressed the view that if a large number of physicians habitually used brick-dust, believing it to be a remedial agent, then brick-dust should go into the Pharmacopeia. With the Committee on Revision holding this view (just how the representatives of the medical profession reached such a view of their functions we do not understand) it is not surprising that a number of preparations of ephemeral interest, or fads, as a member of the Committee on Revision termed them, were admitted. This passive attitude reminds one of the frequently heard argument that any demand, however pernicious it may be or however artificially it may have been created, should be supplied. Such reports as these of the section committees should stimulate discussion as to the real value of some of the new drugs and aid materially in making the Pharmacopeia more representative of the best (not the worst) in the practice of medicine.

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[1] These reports were published in THE JOURNAL, Sept. 4, 1909, liii, 791-796.

THE SCIENTIFIC MESSAGE OF THE YEAR

Probably the most important annual message delivered in the English-speaking world of science—and it is, indeed, eagerly looked for throughout all the scientific world—is the address of the president of the British Association for the Advancement of Science. The annual presidential address was delivered by Professor J. J. Thompson, the distinguished British physicist. The whole address[1] is well worth perusal by physicians who are interested in general science and by educators of all classes, whether especially interested in science or not.

Though far from pessimistic as to the future, Professor Thompson sees in modern education two tendencies which do not favor the development of investigating scientists and original discoverers—or, indeed, of broad and well-balanced men and women. One is the tendency away from the concrete and practical to mere bookishness; the other is the tendency to premature and excessive specialization.

Professor Thompson's experience has taught him that the mental activity required for the supposedly intellectual process of reading may be extremely slight, and the educational value correspondingly small. He says: "It is possible to read books, to pass examinations, without the higher qualities of the mind being called into play. Indeed, I doubt if there is any process in which the mind is more quiescent than in reading without interest. I might appeal to the widespread habit of reading in bed as a prevention of insomnia as a proof of this. But it is not possible for a boy to make a boat or for a girl to cook a dinner without using brains. With practical things, the difficulties have to be surmounted; the boat must be made water-tight; the dinner must be cooked; while in reading there is always the hope that the difficulties which have been slurred over will not be set in the examination."

In the second place, Professor Thompson feels that overspecialization, especially too early in life, can do only harm to the individual—and much more to science itself—by lessening the enthusiasm of the investigator. He says:

"Premature specialization . . . injures the student by depriving him of adequate literary culture, while when it extends, as it often does, to specialization in one or two branches of science, it retards the progress of science by tending to isolate one science from another. The boundaries between the sciences are arbitrary, and tend to disappear as science progresses. The principles of one science often find most striking and suggestive illustrations in the phenomena of another."

Successful research, Professor Thompson believes, requires not merely training, skill, patience and labor, but abounding faith and enthusiasm. His own message is the more valuable, therefore, because he feels that the present is a time of quickening—a Renaissance in science—and that we have left behind the pessimism of twenty years ago, which believed that all the interesting things had been discovered, and that all that was left for science was the dreary task of altering a decimal or two in some physical constant. "There never was any justification for this feeling," he proclaims; "there never were any signs of an approach to finality in science. . . . As we conquer peak after peak we see in front of us regions full of interest and beauty, but we do not see our goal, we do not see the horizon; in the distance tower still higher peaks which will yield to those who ascend them still wider prospects and deepen the feeling, whose truth is emphasized by every advance in science, that 'great are the works of the Lord.' "

THE SURFACE PRIVY AS A FACTOR IN SPREADING HOOKWORM DISEASE AND TYPHOID FEVER

Charles W. Stiles in a recent article[1] calls attention to the faulty disposal of excrement as the chief factor in producing the soil pollution which makes hookworm infection possible. Of 366 farm houses scattered over four southern states, it was found by actual count that only 115 houses, or 31.4 per cent., were provided with privies, while 251 houses, or 68.5 per cent., had no privy. Even when the privy is present it frequently affords little protection against soil pollution, because not properly built or not properly cleaned. The improper construction of the privy favors the spread not only of hookworm disease but of typhoid as well. While the cure of hookworm disease is of vast economic importance for the South, the reform of the insanitary conditions and habits that make this disease possible is of far greater importance, since it means a great lessening of typhoid and other infections, and such reform is applicable to a certain extent to the whole country. As Dr. Stiles says: "To do away with this soil pollution is not only in the interest of the public health, but also in the interest of the further economic development of the South, especially on the farms and in the textile industries." It is to be hoped that the economic argument may so reenforce the sanitary that a genuine reform in the habits of the agricultural population may be effected.

Medical News

CALIFORNIA

New Case of Bubonic Plague.—The second case of plague reported to have developed within two months in Alameda county, has been reported and diagnosed, and the diagnosis has been confirmed by Surgeon Rupert Blue. The patient was a boy who is said to have caught, played with, and ate ground squirrels, which are known to be carriers of the plague. The patient died. The first of the patients from Alameda county died in the County Hospital, August 19.

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[1] Science, Aug. 27, 1909, new series, xxx, 257.

[1] Public Health Reports, Oct. 1, 1909, xxiv, No. 40.

Personal.—Dr. Charles B. Pinkham has been appointed chief surgeon of the Central Emergency Hospital, San Francisco, vice Dr. Wallace I. Terry, resigned.——Dr. Louis A. Frary has been appointed second assistant physician of the Napa State Hospital, vice Dr. Leonard M. Pulsifer, resigned, and Dr. J. Rodgers, Alameda, has been appointed third assistant physician.——Dr. Frederick W. Reynolds has succeeded Dr. William A. Weldon as surgeon of the Southern Pacific Railroad Company at San Pedro.——Dr. Cullen F. Welty, San Francisco, has returned from Europe.

ILLINOIS

Banquet to Dr. Norbury.—Dr. Frank Parsons Norbury, who has been appointed superintendent of the Kankakee State Hospital, was given a banquet at Jacksonville, October 15, by the Morgan County Medical Society and the Jacksonville Medical Club. The banquet was served at the Pacific Hotel, and Dr. Carl E. Black acted as toastmaster.

State Charities Conference.—At the fourteenth annual session of the Illinois Conference on Charities and Corrections, held in Peoria, October 9-12, William C. Graves, secretary of the State Board of Charities, was elected president; Mrs. Ophelia Amigh, Geneva, vice-president; Sherman C. Kingsley, Chicago, secretary; Ray Arnold, Galesburg, assistant secretary; and F. Emery Lyon, Chicago, secretary of the executive committee. The conference adopted a resolution urging a law for adult probation; the ten-hour day for women in factories; medical inspection of public schools; a large number of parole officers under civil service; establishment of a state epileptic colony; and the observance of the last Sunday in October as Prison Sunday by all religious denominations.

Chicago

Personal.—Dr. Ralph Edward Sheldon, associate in anatomy in the University of Chicago, has been appointed assistant professor of anatomy in charge of histology, embryology and neurology in the University of Pittsburg Medical School.

Delegates to Children's Conference.—The following physicians have been named by the mayor to attend the Conference on the Prevention of Infant Mortality, to be held at Yale University, November 11 and 12, under the auspices of the American Academy of Medicine: Drs. William A. Evans, Isaac A. Abt, Thomas A. Woodruff, Casey A. Wood, Frank X. Walls, Charles R. Henderson, Frank S. Churchill, Caroline Hedger, Joseph Damiani, George C. Hunt, Joseph P. Cobb and Stephen R. Pietrowicz.

KENTUCKY

State Board Changes.—Dr. Joseph M. Mathews, Louisville, who has served eighteen years as president of the State Board of Health, resigned October 18, and the board elected Dr. William Bailey as president. Under the law governing the State Board of Health, the governor must appoint members from a list of three names suggested by the state medical association, and the House of Delegates, at its first meeting, recommended to the governor the names of Drs. Joseph E. Wells, Cynthiana; Isaac A. Shirley, Winchester; and Charles Z. Aud, Cecilian. The board took up the charges against Dr. Melvin Rohrer, Lexington, formerly first assistant superintendent of the State Insane Hospital, for alleged malpractice, and decided that Dr. Rohrer was guilty and revoked his license to practice, and decided to urge the next legislature to enact a law punishing physicians guilty of criminal operation.

State Association Meeting.—At the fifty-fourth annual meeting of the Kentucky State Medical Association, held in Louisville, October 19-21, there were 651 members who registered. The following officers were elected: Dr. Joseph E. Wells, Cynthiana, president; Drs. Philip H. Stewart, Paducah; James O. Carson, Bowling Green; and James S. Lock, Barbourville, vice-presidents; Dr. David O. Hancock, Henderson, orator in medicine; Dr. George A. Hendon, Louisville, orator in surgery; and Drs. Walter F. Boggess, Louisville, and Benjamin F. Van Meter, Lexington, delegates to the American Medical Association. The House of Delegates endorsed the good-road movement in Kentucky and passed strong resolutions against the practice of criminal abortion; endorsing the establishment of a medical department in the State University, petitioning the legislature and board of trustees of the university to provide such means and ways as will establish a new era for higher medical education. Lexington was selected as the place of meeting for 1910.

MARYLAND

Society Meeting.—At the annual meeting of the Washington (D. C.) Clinical Society, at Rockville, October 16, Dr. M. A. Custis was elected president and Dr. J. R. Sharp secretary.

Ladies Entertained.—The Ladies' Auxiliary of the Medical and Chirurgical Faculty of Maryland gave a reception to the ladies of the society at Medical Hall, at which Dr. Eugene F. Cordell, on behalf of the faculty, outlined the plans of the Widow's and Orphan's Home Fund, and spoke on what had been accomplished.

Baltimore

Personal.—Dr. George M. Settle was operated on at University Hospital, October 20, for appendicitis.——Dr. J. Hall Pleasants will spend the winter in the Adirondacks.

Mayo to Lecture.—Dr. Charles H. Mayo, Rochester, Minn., will deliver two lectures on "Diseases of the Thyroid Gland," at the University of Maryland, November 9 and 10. On academic day, November 11, the degree of LL.D. will be conferred on Dr. Mayo by the university.

MASSACHUSETTS

Contagious Disease Hospital.—Both branches of the Cambridge city government gave a hearing October 19, on the question of appropriating $100,000 for a hospital for contagious diseases. The medical inspector of the health board estimated the cost of the proposed building, including two wings, at $80,000.

Elections.—The Massachusetts Society of Examining Physicians held its annual meeting in Boston, October 19, and elected the following officers: President, Dr. Francis D. Donaghue (reelected); vice-presidents, Drs. Frank E. Allard, Edward M. Greene, and Timothy Leary; secretary, Dr. A. Carlton Potter; treasurer, Dr. Henry M. Chase, Jr.; and council, Drs. Frederick M. Briggs, Benjamin Tenney, Edward B. Lane, John L. Ames, and T. J. Hanley, all of Boston.——The Brookline Medical Club has elected the following officers: President, Dr. Henry V. McLaughlin; vice-president, Dr. George W. Kaan, and secretary-treasurer, Dr. H. Hale Powers.——At the annual meeting of Holyoke Medical Society, held October 12, the following officers were elected: President, Dr. Thomas E. Cavanaugh; vice-president, Dr. George D. Henderson; secretary-treasurer, Dr George C. Robert; and executive committee, Drs. George L. Taylor, Joseph H. Potts, and John J. Carroll.

MINNESOTA

Personal.—Dr. George M. Doran, St. Paul, is critically ill in St. Joseph's Hospital, from a bullet wound of the abdomen.——Dr. Charles E. Smith, Jr., has been appointed second assistant physician of St. Paul and Ramsey county, and Dr. Elmer M. Jones has been made first assistant, vice Dr. Adolph Stierle, Jr., term expired.

State Association Meeting.—The annual meeting of the Minnesota State Medical Association was held in Winona, October 12-14. The following officers were elected: President, Dr. William A. Jones, Minneapolis; vice-presidents, Drs. Frank W. Dimmitt, Red Wing; Hugh F. McGaughey, Winona; and Charles W. Bray, Biwabik; secretary, Dr. Thomas S. McDavitt, St. Paul (reelected); treasurer, Dr. Richard J. Hill, Minneapolis; and councilors, Drs. Eugene A. Hensel, Alexandria, Frederick A. Knights, Minneapolis, and Franklin A. Dodge, LeSueur. The 1910 meeting of the association will be held in Minneapolis.

MISSOURI

Personal.—Dr. Arthur B. Freeman has been elected chairman, and Dr. Mary L. Mack, secretary of the Joplin Branch of the Jasper County Medical Society.——Dr. Harold R. Lucas, division and examining surgeon for the Frisco System at Chaffee, has resigned and entered private practice in Joplin. Dr. George A. Sample has been appointed his successor.

St. Louis

Personal.—Dr. Albert E. Taussig has taken charge as editor of the *Weekly Bulletin of the St. Louis Medical Society.*——Drs. H. Jackson Harrell, Martin C. Woodruff and George W. Flinn have been appointed vaccine physicians, and Dr. Fred Gunn has been appointed junior assistant physician at the City Hospital.——Dr. and Mrs. William W. Graves have returned from Europe.——Drs. John McJ. Dean and Louis Rassieur have been appointed surgeons-in-charge of St. Mary's Infirmary, vice Dr. William A. McCandless, resigned.

Proposed Sanitary Ordinances.—The Municipal Commission on Tuberculosis has prepared ordinances providing for the establishment of an emergency hospital for the care of persons afflicted with acute contagious and infectious diseases, and transferring the appropriation for the maintenance of the smallpox and quarantine hospital to the maintenance of this hospital; making provision for the exclusive use of Building "A" of the City Hospital for the care and treatment of advanced cases of tuberculosis; providing for the conversion of the present quarantine and smallpox hospital into a tuberculosis sanatorium; providing for the establishment of two clinics at the eastern ends of the fourth and second sanitary districts for the free treatment of persons afflicted with tuberculosis; providing for the appointment of seven nurses to visit consumptives in their homes; providing for the appropriation of $10,000 for the relief of indigent consumptives; providing for the payment of part of the salaries of city employés while undergoing treatment in the hospital or sanatorium; the abolition of the common drinking cup in the city; providing for the proper ventilation of street cars; providing for the medical inspection of children for the prevention of contagious and communicable diseases, and for the correction of physical defects, and providing that persons afflicted with tuberculosis, applying to the city for treatment in hospitals or dispensaries, or for relief in their homes, shall not be considered as paupers.

NEW YORK

Branch of State Laboratory at Cornell.—A branch hygienic laboratory has been established by the State Department of Health at Cornell University, Ithaca. It is located on the ground floor of Lincoln Hall, and will be in charge of Dean Haskell, and Prof. H. N. Ogden, hydraulic expert for the health department.

District Society Meeting.—The Medical Association of Central New York, held its forty-seventh annual meeting in Auburn, October 19. Dr. Frederick W. Sears, Syracuse, was elected president and Dr. Wesley T. Mulligan, Rochester, vice-president. Dr. Robert T. Morris, New York City, discussed the surgical treatment of appendicitis.

New State Insane Hospital.—A new hospital for the insane is to be established on Lake Mohansic, seven miles from Peekskill, where a site has been purchased for $135,000. The hospital will take care of the overflow of the other New York City and state insane institutions. The buildings are to cost $1,000,000 and will accommodate 2,000 patients.

New York City

The Carpenter Lecture.—Dr. Howard T. Ricketts of the University of Chicago, delivered the Wesley M. Carpenter Lecture before the New York Academy of Medicine, Thursday, October 21, on "Spotted Fever."

Lectures on Skin Diseases.—Dr. L. Duncan Bulkley will give an eleventh course of clinical lectures on diseases of the skin at the Skin and Cancer Hospital on Wednesday afternoons at 4:15, commencing November 3. The course will be free to the medical profession.

Harvey Society Lectures.—The course of lectures of the Harvey Society for 1909-1910 will begin at the Academy of Medicine, October 30, at 8:30 p. m., when Prof. Richard M. Pearce of University and Bellevue Hospital Medical College will read a paper on "The Problems of Experimental Nephritis."

OHIO

State Board Elects.—The Ohio State Board of Health, at its meeting, October 14, elected the following officers: President, Dr. Jefferson C. Crossland, Zanesville; vice-president, Dr. William T. Miller, Cleveland; and secretary, Dr. Charles O. Probst, Columbus.

Personal.—At a meeting of the Lima Antituberculosis League, October 6, Dr. William E. Hover was elected president. ——Dr. Mason O. Wert, Poplar, has started on a trip around the world.——Dr. Joseph A. Murphy has been appointed coroner of Columbus, during the absence of Dr. William F. Bay.——Dr. George S. Weger, Delphos, has been elected a member of the school board.——Dr. and Mrs. Curtis Laughlin, Steubenville, have returned from Europe.

Colleges Open.—The Cleveland College of Physicians and Surgeons, Medical Department of the Ohio Wesleyan University, opened for its annual session, October 11. The following faculty changes were announced: Dr. Roland E. Skeel has been made professor of gynecology; Dr. Arthur J. Skeel, professor of obstetrics; Dr. John F. Davidson, professor of anatomy; Dr. Augustus F. House, clinical professor of surgery; Dr. Harry B. Kurtz, professor of dermatology; Dr. John V. Gallagher, professor of surgery; Dr. Walter B. Laffer, professor of mental and nervous diseases; Dr. Ralph K. Updegraff, associate professor of physical diagnosis; and Dr. Willard C. Stoner, lecturer and demonstrator of microscopy. ——The Medical Department of Western Reserve University opened for its annual session October 1.

Cincinnati

College Opens.—The formal opening exercises of the new Ohio-Miami Medical College were held October 2. The introductory address was given by President Dabney, and Dr. Charles A. L. Reed spoke on "The Modern Medical College."

Personal.—Drs. Woolley and Wherry have been placed in charge of the newly organized department of pathology in the Cincinnati Hospital.——Dr. E. G. Betty has been appointed dental and consulting surgeon at the City Hospital, vice Dr. W. H. Kempton.

PENNSYLVANIA

Aid to the Tuberculous.—*A gift of 450 acres of land was made to the State of Pennsylvania, absolutely free of any incumbrance, for use as the site of a new sanitarium for the gratuitous treatment of tuberculosis patients, October 20, by Mr. Andrew Carnegie, through the State Commissioner of Health, Dr. Samuel G. Dixon.* The land is located at Cresson, Cambria county, and is 2,400 feet above sea level. The tract possesses scenic views unsurpassed by any spot in the state. It is on the main line of the Pennsylvania Railroad and about one hundred miles east of Pittsburg, and, therefore, very acceptable. It is said that the gift will be accepted. Dr. Dixon made a careful inspection of the site October 23.——A site for the Berks County Tuberculosis Sanatorium has been secured by the purchase for $8,000, the Centennial Springs Hotel on the southern slope of the Neversink mountains, and in addition Rev. George Borneman, pastor of St. Paul's Catholic Church, has given the Neversink Hotel property adjoining. ——The grand total of receipts for Tuberculosis Day at Reading amounted to $10,613.20.

Philadelphia

Personal.—Dr. Paul R. Walters has been appointed assistant demonstrator of physical diagnosis and assistant demonstrator of pharmacy and materia medica at Jefferson Medical College.——Dr. Maude M. Rees has been appointed a member of the staff of the State Insane Hospital, Kalamazoo, Mich.

Budget for City Hospitals.—The budget of Dr. Neff for the maintenance of the Philadelphia General Hospital, the Philadelphia Hospital for the Insane, Home for the Indigent, and Philadelphia Hospital for Contagious Diseases, and for the Board of Health amounts to $1,564,831. The committee not only approves the budget, but in place of cutting down any item, added two items to the budget, amounting to $30,000.

Site for Tuberculosis Sanatorium.—The final arrangements for the establishment of a local dispensary for the prevention and cure of tuberculosis, by the recently organized Jewish Consumptive Institute Association, have just been completed by the purchase of a large building at 212 Catherine street. Alterations on the building are to be started at once to make it a modern institution for the treatment of the tuberculous poor.

VERMONT

Society Meetings.—At the ninety-sixth annual meeting of the Vermont State Medical Society, held in White River Junction, October 14 and 15, the following officers were elected: President, Dr. Walter L. Havens, Chester Depot; vice-president, Dr. Edward H. Ross, St. Johnsbury; secretary, Dr. Clarence H. Beecher, Burlington; treasurer, Dr. Bingham H. Stone, Burlington, and auditor, Dr. Anson M. Norton, Bristol. The next meeting will be held in St. Albans. The House of Delegates elected Dr. Archibald J. Valleau, Morrisville, president; Dr. William Lindsay, Montpelier, first vice-president; Dr. Mark R. Crain, Rutland, second vice-president; Dr. Arthur O. Morton, St. Albans, secretary, and Drs. Walter L. Havens, Chester Depot, Clarence H. Beecher, Burlington, and George C. Berkeley, St. Albans, executive committee.——Bennington County Medical Society, at its annual meeting elected Dr. Anselme E. Houle, Bennington, president; Dr. George V. Wager, North Bennington, vice-president; Dr. Lewis H. Hemenway, Manchester, secretary; Dr. Frank W. Goodall, Bennington, treasurer; Drs. Houle, Goodall, and Hemenway, censors; Dr. Hemenway, delegate to the Vermont State Medical Society, and Dr. Lucretius H. Ross, Bennington, alternate.

VIRGINIA

Tuberculosis League Changes Name.—The Tuberculosis League of Lynchburg has decided to change its name to the Health League, and the scope of the organization will be enlarged in keeping with the name. Dr. Ferdinand M. Perrow is president.

County Society Election.—At the annual meeting of the Norfolk County Medical Society, the following officers were elected: President, Dr. Lawrence T. Royster; vice-president, Dr. Israel Brown, and secretary-treasurer, Dr. D. Lee Hirschler (reelected).——Nansemond County Medical Society, at its annual meeting, in Suffolk, October 13, elected Dr. Japheth E. Rawls, Suffolk, president; Dr. Job G. Holland, Holland, vice-president, and Dr. Edward R. Hart, Suffolk, secretary-treasurer.

New Medical Examining Board.—The following members of the examining board of Virginia have been nominated by the Medical Society of Virginia and commissioned by the governor: At Large—Drs. Rawley W. Martin, Lynchburg, Robert B. James, Danville, and John G. Rennie, Petersburg; First District—Dr. Joseph N. Barney, Fredericksburg; Second District—Dr. Herbert Old, Norfolk; Third District—Dr. Junius E. Warinner, Brookhill; Fourth District—Dr. Otho C. Wright, Jarratt; Fifth District—Dr. Richard S. Martin, Stuart; Sixth District—Dr. Henry W. Dew, Lynchburg; Seventh District—Dr. Philip W. Boyd, Winchester; Eighth District—Dr. Robert M. Slaughter, Theological Seminary; Ninth District—Dr. Elliott T. Brady, Abingdon, and Tenth District—Dr. Robert Glasgow, Lexington.

GENERAL NEWS AND COMMENT

Ohio Valley Meeting.—The Ohio Valley Medical Association will hold its eleventh annual meeting at Evansville, Ind., November 10 and 11, under the presidency of Dr. Curran Pope, Louisville, Ky., the subject of whose address will be "The Problem of Living." The membership of the association includes Kentucky, Ohio, Indiana and Illinois.

Pellagra Conference.—The preliminary program of the National Conference on Pellagra, to be held at the State Hospital for the Insane, Columbia, S. C., November 3 and 4, under the auspices of the South Carolina State Board of Health, includes the consideration of the economic problems of pellagra; the etiology, pathology, diagnosis, and treatment of the disease; the theories as to its causation; statistical reports; the spoiled corn hypothesis; whether or not it is contagious; its relation to insanity and to diseases of other organs. A number of cases will be presented, lantern slides will be shown, demonstrations will be made, and the question of a permanent national organization for the study of the disease will be brought up.

The Christmas Stamp.—According to Ernest P. Bicknell, director of the American Red Cross (*The Survey*, Oct. 16, 1909), the sale of stamps last year netted $135,000 for the campaign against tuberculosis. This season the Red Cross will provide a supply sufficient to meet all needs. A new design, the result of a competition among about 1,200 persons, has been adopted and the stamps will be ready for shipment to agent November 1. The stamp, one inch square, will be in red and dark green with lettering in white, and will be sold for one cent. The stamps are to be sold only by recognized and reliable agents and the proceeds must be devoted to anti-tuberculosis work. The stamps, posters, and printed matter intended to assist in the sale of stamps will be supplied to agents free, the agency to return to the Red Cross the unused stamps and one-third of the face value of the stamps sold. (The Red Cross may be addressed at Washington, D. C.) The privilege of selling the stamps in the corridors of the post offices has been granted this year as last.

Southwestern Physicians to Meet.—The annual meeting of the Southwestern Medical Association will be held in San Antonio, Texas, November 9, 10 and 11. At the same time the Fifth District Medical Association of Texas will hold its annual meeting. An excellent program has been prepared and the fraternity of San Antonio are making elaborate preparation for the meeeting. Dr. Malcolm Lasalle Harris, Chicago, will deliver the oration on surgery, and Dr. George Dock, New Orleans, the oration on medicine.

Railway Surgeons Meet.—At the annual session of the American Association of Railway Surgeons, held in Chicago October 21 and 22, the following officers were elected: President, Dr. Henry C. Fairbrother, East St. Louis, Ill.; vice-presidents, Drs. David Y. Roberts, Louisville, Albert R. Mitchell, Lincoln, Neb., and John P. Kaster, Topeka, Kan.; secretary, Dr. Louis T. Mitchell, Chicago (re-elected), and treasurer, Dr. Henry B. Jennings, Council Bluffs, Iowa.——The Association of Seaboard Air-Line Surgeons held its eighth annual meeting in Raleigh, N. C., October 19-21, under the presidency of Dr. Joseph M. Burke, Petersburg, Va., and elected the following officers: President, Dr. James R. Rogers, Raleigh, N. C.; vice-presidents, Drs. Jarvis G. Dean, Dawson, Ga., Hillary M. Wilder, Charlotte, N. C., and Hampden A. Burke, Petersburg, Va.; secretary-treasurer, Dr. Jarrett W. Palmer, Ailey, Ga. (re-elected), and member of executive committee, Dr. Emmett H. Terrell, Richmond, Va. The next annual session will be held in Birmingham, Ala.

CANADA

Hospital Notes.—At the eighteenth annual meeting of the Montreal Foundling and Baby Hospital, the fact was brought out that the death rate in the institution had been materially lessened during the past year, chiefly by a purer milk supply. It had been necessary to refuse 300 children admittance during the year and this emphasized the urgency for a larger institution.——Ingersoll, Ont., has recently opened a new hospital.——The Toronto Western Hospital is erecting a new wing.——In 1908. there were 6,268 patients in the hospitals for the insane in the province of Ontario, an increase of 178 over the previous year.

Tuberculosis Sanatoriums.—The province of Quebec now has completed a provincial sanatorium for the treatment of cases of tuberculosis, situated on Lake Edward, about two hundred miles north of Quebec City on the Quebec and Lake St. John division of the Canadian Northern Railway. It will accommodate thirty patients and has been built at a cost of $35,000. Dr. W. E. Ainley, Lachine, late of the Montreal General Hospital staff, is in charge as medical superintendent. A considerable sum has been subscribed for maintenance by the citizens of the province. No free patients are admitted and the charge of each patient is fixed at seven dollars a week.——During the week ended October 16 the Royal Edward Institute for the Treatment of Tuberculosis was opened in Montreal.

Canadian Medical Association.—The forty-third annual meeting of the Canadian Medical Association will be held in Toronto June 1-4, 1910, under the presidency of Dr. Adam H. Wright, Toronto. Drs. D. J. Gibb Wishart, R. W. Bruce Smith, James F. W. Ross, Allen Baines, Charles J. Hastings, and George Elliott (general secretary), comprise the committee of arrangements. The meetings will be held in the Convocation Hall of the University of Toronto. The executive council met in Toronto October 11 and appointed the following special committee on dominion registration: British Columbia, Drs. Simon J. Tunstall, Vancouver, and James H. King, Cranbrook; Alberta, Drs. J. Kennedy and James D. Lafferty, Calgary; Saskatchewan, Drs. Maurice McD. Seymour, Regina, and William A. Thomson, Regina; Manitoba, Drs. Robert J. Blanchard, Winnipeg, and Robert S. Thornton, Deloraine; Ontario, Drs. Robert H. W. Powell, Ottawa, and Frederic N. G. Starr, Toronto; Quebec, Drs. Emmanuel P. Lachappelle, Montreal, and Herbert S. Birkett, Montreal; New Brunswick, Drs. Murray Maclaren, St. John, and John W. Daniel, St. John; Nova Scotia, Drs. John Stewart, Halifax, and Geo. M. Campbell, Halifax, and Prince Edward Island, Drs. Stephen R. Jenkins, Charlottetown, and James Warburton, Charlottetown. It is expected that the new journal of the association will appear about Jan. 1, 1910.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Oct. 16, 1909.

Women's Success in Medicine

The winter session of the London School of Medicine for Women has commenced, this being the first time the school has met since the opening to women of the Colleges of Physicians and Surgeons of London. The president, Dr. Garrett Anderson, made the gratifying announcement that of the seven students sent by the school for the first medical examination of the London University (the degree of which stands highest in this country) every one had passed; in the second medical there were 12 passes; 28 had taken the M.B. and B.S. of London; 2 the M.B. of Durham, and 2 the conjoint colleges of Scotland, and 7 former students the M.D. of London. Such a list of successes would be an honor to any medical school.

Heart Overstrain in Athletes

At the opening of the winter session of the Postgraduate College of the West London Hospital, Prof. Theodor Schott of Nauheim delivered a most important address on "Overstrain of the Heart by Athletics." After alluding to the pioneer work of Peacock and to the researches of Myers, Allbutt, Da Costa, Sitz and Münzinger, he said that he reported to a medical congress in Vienna in 1890 experiments he had made to determine whether bodily overstrain could produce alterations in a healthy heart. He selected healthy young subjects at ages ranging from 14 to 32. He had them wrestle and perform other exercises until a high degree of dyspnea was produced, and he found that the heart became temporarily dilated. His observations were confirmed by the *x*-rays. Chronic overstrain he regarded as due to repeated excessive muscular efforts. His views were confirmed by the enlargement of the heart found in bicyclists and ski-runners. Only last year he performed further experiments which showed that a healthy heart hypertrophied from excess of work, such as occurred under excessive indulgence in athletics. Strong emotions, fright or shock also produced serious effects on the heart. Dilatation followed mountain climbing from accumulation of blood in the heart cavities. Experiments on heavily accoutered soldiers who had climbed high mountains with the result that dyspnea was produced, showed that the cardiac diameter was increased 2 or 3 centimeters.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Oct. 8, 1909.

Congress of Surgery

The opening session of the twenty-second French Surgical Congress took place October 4 under the presidency of Dr. Richelot, member of the Academy of Medicine and professor *agrégé* at the Paris medical school. It brought together in addition many Parisian and provincial surgeons, a great number of foreign surgeons, among whom were Professors Czerny of Heidelberg, Kocher of Berne, Gibson of New York, and Jonnesco of Bucharest. Dr. Richelot delivered a very instructive oration on "Simplicity in Surgery." After having reviewed the progress made by surgery since the foundation of the French Surgical Association, twenty-five years ago, the orator showed that there was still no ground for vaingloriousness. Velpeau once said, "If it were not for erysipelas and purulent infections, surgeons would be gods." "Erysipelas and purulent infection have disappeared," said Dr. Richelot, "and I am strongly inclined to believe that we are still men. Surgery, indeed, is always advancing, but there are still many obstacles in its path, especially those due to lack of simplicity—in the first place, lack of simplicity in the operative equipment." He deprecated the multiplication of varied instruments apparently responding to all the needs and facilitating each movement of the operator, down to the smallest details. He has seen surgeons bring with them enormous chests with multiple compartments, and spread astonishing arsenals around them on the tables, and the operation was done with a single little bistoury and small forceps. He has seen gynecologists brandish formidable tools as if they had had nightmares in which the pelvis looked the size of an underground tunnel. Instruments cannot give brains to surgeons. The one who succeeds the best is the one who makes the best use of his fingers and his good sense.

Richelot also criticized the type of surgeon who, away from his elaborately equipped operating-room, consents to take the bistoury in hand only after having had all the furniture and draperies removed, the pictures turned, that is, only after having raised a great deal of dust. Lister, however, affirmed and proved that asepsis was realized between the field of operation, the instruments, and the surgeon's fingers. He added that lately there have been invented various forms of more or less ingenious apparatus for regulating mathematically and invariably the dose of chloroform that the patient is to breathe in a given period and to furnish a definite mixture of air and of chloroform. No doubt such apparatus have their advantages, but the dose of chloroform should be graduated by clinical observation, each patient having his own receptivity, which only skilled and attentive observation can estimate. In regard to the technic of operations, he declared that many surgeons are too much inclined to say "Such is my practice;" "That is the way that I do." This extreme desire to have an individual surgical technic leads to useless complications, and impels leading surgeons sometimes to perpetuate imperfect procedures. This is one of the circumstances which render it so difficult to simplify surgery.

Death of Professor Heurtaux

Dr. Alfred Heurtaux, former professor of clinical surgery in the Nantes medical school, has just died, aged 78. He was one of the most active collaborators on Jaccoud's *Dictionnaire de médecine et de chirurgie pratiques*, for which he wrote the articles on cancer, inflammation, fibromas, cysts, etc. He had been a national associate of the Academy of Medicine since 1901.

Monument to Professor Tillaux

Yesterday the dedication of the monument to the memory of Prof. P. Tillaux took place in the amphitheater of anatomy of the hospitals of Paris. This monument was the last work of the late sculptor Chaplain. It is in marble and represents Tillaux standing, his right hand on a half dissected cadaver, giving his lesson in anatomy. The monument stands in the garden of the amphitheater where Tillaux was director of anatomy before being appointed professor in the medical school.

Pharmacology

CELLASIN

Report of the Council on Pharmacy and Chemistry

Cellasin, a product of Mead Johnson & Co., was the subject of a report by the Council on Pharmacy and Chemistry in The Journal, Sept. 12, 1908. In this report, the Council voted that cellasin be refused recognition on account of the exaggerated chemical and therapeutic claims made for it. The manufacturers having taken issue with these findings, the Council decided to reinvestigate the product, and the matter was referred both to the original investigator (Referee A) who conducted a new series of experiments, and to a second referee (B), not a member of the Council, who investigated the product independently. The reports containing the findings of both these men were submitted to a third referee (C). The report of Referee C was submitted to the Council, together with the reports of Referees A and B and also letters from Mr. John E. Teeple, chemist for Mead Johnson & Co., and Professor Orndorff. The Council voted that all the matter submitted by Referee C should be published in pamphlet form and Referee C's individual report should in addition be published in The Journal. After this had been decided the manufacturers requested that publication be withheld until they had submitted new evidence, a request which the Council voted to grant for a specified time. At the end of this time Referee C submitted to the Council the following recommendation which was adopted and publication of the Cellasin report authorized.

W. A. Puckner, Secretary.

RECOMMENDATION OF REFEREE C

To the Council: The accompanying letter, dated Aug. 13, 1909, from Mr. John E. Teeple, in behalf of Mead Johnson & Co., and addressed to the Secretary of the Council, has been transmitted to me:

> Mead Johnson & Co. have handed me a copy of your letter to them of July 30, stating that further consideration of Cellasin has been postponed until August 15, and have asked me to write you regarding the matter.
>
> I have worked on this subject in conjunction with bacteriologists a considerable portion of the time since I saw you in Chicago in April. I have been attempting to obtain a sterile solution by some means which would not at the same time interfere with the action of any enzyme which might be present.
>
> From my conversation with you and others in Chicago I believed that there was not at present any question regarding the presence or absence of action on sugar, but that the question was now solely whether the action was bacterial or enzyme.
>
> At the outset I assumed it would be comparatively easy to obtain a sterile solution by some means which would not interfere with the enzyme. I have not yet, however, succeeded in getting a satisfactory result. There are certain bacteria present which are evidently spore bearers and which resist any means of sterilizing so far tried, excepting means which would actually destroy enzyme.
>
> More recently, I have been trying the possibility of sterilizing by repeated filtration through Birkhardt filters, but a very large number of filtrations, through a great many filters, with intervals to allow development of spore, has not yet produced a solution which is sterile.
>
> I am at present endeavoring to isolate the bacteria and develop pure cultures and determine whether any of them have the same action on sugar and same resisting powers that the Cellasin itself seems to have.
>
> It seems certain that we have here either an enzyme or a variety of lactic-acid-producing bacteria widely different from commonly known varieties, and much more active and resistant to chemicals than they are.
>
> I expect to pursue this investigation until I can determine exactly what we have. If under these circumstances your committee cares to leave the matter open a little longer, I shall be glad to report to you at frequent intervals just what results are being obtained. My only desire is to determine the exact truth in the matter.
>
> Awaiting your advices, I remain,

Since Mead Johnson & Co. have on the market a product for which they made certain claims, which they are unable to substantiate in their letter of August 13, and as they themselves arrive at the conclusion that "it seems certain that we have either an enzyme or a variety of lactic-acid-producing bacteria widely different from commonly known varieties, and much more active and resistant to chemicals than they are," I would recommend the publication of the report on cellasin.

REPORT OF REFEREE C

Cellasin was submitted to the Council by Mead Johnson & Co., with the claim that it contained starch-converting and fat-splitting enzymes and an enzyme capable of converting sugar into lactic acid, together with small amounts of acetic and other acids. The report of the committee on chemistry showed that, so far as the action on sugar was concerned, these claims were not substantiated by the examinations made by its referee.

In view of the emphatic assertions of the manufacturer that the claims they made for the product were correct, the committee on chemistry again took up the matter, and after further investigation submitted a second report in which it is stated: "We have given an unusual amount of time to the investigation of cellasin and every opportunity has been afforded the firm to substantiate its claims. These claims could not be verified in any samples submitted, and the committee now and finally recommends the adoption and publication of the report."[1]

In the report on cellasin, as published in THE JOURNAL, it was stated that Mead Johnson & Co. claimed that "the action of cellasin on fats, carbohydrates in acid solution is most powerful." This evidently is an error, the word "acid" having been used when "alkaline" was meant. The firm having made no claim as to the activity of the product in *acid* media, this statement in THE JOURNAL should be corrected.

The consulting chemist of the firm, J. E. Teeple, presented arguments (Oct. 13, 1908) to show that the product contained or might contain an enzyme, and transmitted a report from Prof. W. R. Orndorff of Cornell University, who had examined cellasin with reference to its power to produce acid from sugar. Orndorff's experiments showed that the preparation would convert cane sugar into lactic acid when the media were apparently sterile and even in the presence of antiseptics, but apparently he made no examination of the substance itself or of the fermenting solutions for bacteria.[2]

On the receipt of this letter the matter was referred in accordance with the custom of the Council to the original referee (A) for reinvestigation. Referee A went carefully over the ground and reported in substance, that while cellasin has the power of converting sugar into lactic acid,[3] this action is due in the main to bacteria, of which cellasin contains about 500,000 per gram, and that these bacteria increase, *pari passu*, with the formation of acid. He found that when micro-organisms were removed by proper filtration the activity of the product becomes correspondingly decreased.[4]

In addition to the investigation by the referee, the product was referred to a second referee (B). His report confirmed the findings of the first referee.[5]

In accordance with the regular procedure of the Council, the reports of Referees A and B (the latter not a member of the Council) on cellasin, together with a letter, bearing date of Oct. 13, 1908, and signed by J. E. Teeple (consulting chemist, chemical engineer) in regard to the properties and claims made for the product, and accompanying this letter a report by Prof. W. R. Orndorff of Cornell University, were submitted to the third referee (C) for an additional opinion.

The report of Professor Orndorff goes to show that cellasin does possess considerable power of splitting up cane sugar into acid products, but singularly enough the report is lacking in a bacteriologic control of the results obtained. That he attempted to exclude *extraneous* bacteria is indicated by the statement: "Except in cases where antiseptics were used, all apparatus and chemicals were sterilized before cellasin was added." The possibility that *cellasin itself* might contain the responsible bacteria was seemingly excluded by a number of tests in which antiseptics were employed. The report tacitly assumes that the germicidal and antiseptic substance used either killed or held in check such bacteria as might be present, and, while it does not directly assert the presence of a "true enzyme," still it leads to such an inference. Thus, Mr. Teeple, referring in his letter of Oct. 13, 1908, to the tests made by Professor Orndorff and himself, states "that all of the experiments go to show that we have here a true enzyme whose action is roughly proportional to the amount of enzyme present." In these few words a tangible claim is made which must stand or fall with such experimental evidence as has been presented. The report of Professor Orndorff therefore requires particular attention.

In 8 out of the 12 experiments tabulated in the report of Professor Orndorff, phenol (in amounts of 0.03, 0.06 and 0.1 per cent.) was added to the cane-sugar solution clearly for the purpose of inhibiting the growth of bacteria. And yet, no control was made to ascertain whether the bacteria were actually inhibited, although it was noted that an increase in the amount of phenol retarded the reaction. The statement, made by way of comment on the results obtained, that "This retardation of *enzyme reactions* [Italics not in original] in the presence of antiseptics has been frequently observed," shows clearly that the possibility of *bacterial reactions* was entirely lost sight of.

As a matter of fact, Referee C, on repeating the phenol experiments under practically the same conditions as those which obtained in the experiments of Professor Orndorff, obtained an enormous development of bacteria, and as might be expected, a corresponding conversion of cane-sugar into acid products. The details of one experiment will be sufficient.

TEST WITH 0.1 PER CENT. PHENOL

To 392 c.c. of a sterile 2 per cent. solution of rock candy, 8 c.c. of a 5 per cent. solution of phenol was added. To this solution 2 c.c. of sterile normal sodium bicarbonate and 0.8 gm. of cellasin were added, and the whole mixture then incubated. In this, as in all other tests, made by Referee C, the solutions and containers were absolutely sterile, and special care was taken to avoid external contamination. Hence, the bacteria, if any developed, came from but one source—the cellasin.

Agar plates were poured at the times stated, and the kind and number of bacteria were noted. The clouding of the liquid soon indicated a rapid multiplication, and since the titration of a portion of the liquid showed considerable acid production, sterile normal sodium bicarbonate was added to the liquid from time to time, in order to reduce the acidity. The total acidity at the end of 120 hours calculated as lactic acid, corresponded to 5.28 gm. of lactic acid. This result, as well as the bacterial count when compared with the control test given later on, where no antiseptic was used, shows an almost total absence of a supposed antiseptic action. The following table will serve to show the rapid growth of bacteria in this test:

MIXTURE PLATED	NO. BACTERIA PER C.C.
At once.	3,800
8 hours.	8,400
24 hours.	450,000
48 hours.	58,000,000
72 hours.	70,000,000
96 hours.	90,000,000

The obvious conclusion from this experiment is that 0.1 per cent phenol does not inhibit the action of the bacteria contained in the cellasin. It naturally follows that the 0.03 per cent. and 0.06 per cent. phenol would have even less inhibitory action, if any at all.

A similar experiment made with 0.5 per cent. phenol did show a complete inhibition of the growth of bacteria, and, paralleling this, a total absence of conversion of sugar into acid products. Agar plates made daily for a period of nine days showed about 100 colonies on each of the nine days. These were obviously derived from spores present in the cellasin. The spores, though resistant to 0.5 per cent. phenol, were unable to germinate in such a solution, whereas a 0.1 per cent. solution offered no such hindrance. The failure to effect a cleavage of the sugar can mean only one thing—the absence of a "true enzyme."

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[1] THE JOURNAL A. M. A., Sept. 12, 1908, p. 931.

[2] Mr. Teeple's letter and Prof. Orndorff's report appear on pages 8 and 10 respectively of the pamphlet; this pamphlet may be had on request.

[3] The action of cellasin on a sugar solution is found to be slow at first. The examinations on which the first reports of the referee were based were made after an incubation for not more than 24 hours. The results were negative as to quantitative results. In the subsequent experiments a longer period of incubation gave considerable formation of acid. It is admitted by the manufacturers that the action of cellasin is too slow to be of use as an intestinal enzyme, but is claimed that it is an intracellular enzyme, similar to muscle enzymes, and acts after absorption into the blood. (As appears in Mr. Teeples' letter, page 8, and also report of Referee A, page 13 of the pamphlet.)

[4] Report of Referee A, page 13 of pamphlet.

[5] Report of Referee B, page 15 of pamphlet.

TEST WITH 0.5 PER CENT. SODIUM SALICYLATE

Two experiments of this kind are given by Professor Orndorff, who obtained about the same amount of conversion as with 0.1 per cent. phenol. Any one familiar with the antiseptic action of sodium salicylate would realize, as in the case of phenol, that very little, if any, inhibition of growth might be expected. Nevertheless, one test was made by Referee C under as nearly identical conditions as possible, and the result showed an even greater multiplication of bacteria than in the test with 0.1 per cent. phenol. The acid production corresponded to 3.78 per cent. lactic acid. It is therefore clear that cellasin contains bacteria which can multiply without apparent hindrance in the presence of 0.5 per cent. sodium salicylate, and hence such test can not be taken to indicate the presence of an enzyme other than that connected with the functional activity of the bacteria.

TEST WITH CHLOROFORM

Two tests were also made by Professor Orndorff using chloroform as an antiseptic, but here, as in other experiments, no controls were made. It is commonly assumed that chloroform water is an efficient antiseptic, and it is less generally known that there are bacteria which can thrive under such conditions. Cellasin, it will be seen, affords an interesting instance of this kind.

A number of tests made by Referee C, with varying amounts of chloroform and under varying conditions of agitation, showed an invariable and unhindered multiplication of the bacteria introduced into the sugar solution with the cellasin. One test will be sufficient to substantiate this point.

To 400 c.c. of a 2 per cent. solution of rock candy there was added 2 c.c. of sterile normal sodium carbonate, 40 c.c. of chloroform and 0.8 gm. of cellasin. Sterile conditions obtained as before except for the cellasin. The glass-stoppered bottle containing the liquid was placed on a mechanical shaker in an incubator and constantly agitated throughout the experiment. Sterile normal sodium bicarbonate was added from day to day to maintain an approximately neutral reaction. On titration at the close of the experiment the acidity produced corresponded to 2.88 gm. of lactic acid. The growth of bacteria can be seen from the following table:

MIXTURE PLATED	NO. BACTERIA PER C.C.
At once.	3,000
10 hours.	850,000
24 hours.	2,000,000
48 hours.	87,000,000
72 hours.	150,000,000
96 hours.	200,000,000
120 hours.	300,000,000

The constant presence of an excess of chloroform, therefore, does not materially interfere with the multiplication of the bacteria, and hence the conversion of sugar obtained under such conditions can not be ascribed to an enzyme contained with the cellasin.

TEST WITH HYDROCHLORIC ACID

The patent specifications describe an enzyme which is *indestructible* in a solution of 25 per cent. hydrochloric acid and it further specifies that the ferment has the empirical formula $C_{72}H_{112}N_{18}O_{22}S$. There are no tests, however, with 25 per cent. acid,[6] and only one is given by Professor Orndorff with a concentration one-tenth that specified, and from his results he deduces the conclusion that "cellasin resists the action of 2.5 per cent. hydrochloric acid." This is quite true, but it does not prove that cellasin is an enzyme or even a mixture containing an enzyme. The presence of resisting spores offers an adequate explanation for the subsequent conversion of sugar.

Several tests were made by Referee C by treating 0.8 gm. of cellasin with 10 c.c. of 2.5 per cent. hydrochloric acid for one hour at 24 C., then neutralizing and adding the mixture to 400 c.c. of a 2 per cent. rock-candy solution. In one instance no growth was obtained and no cleavage of sugar resulted. In three other tests multiplication of bacteria occurred, though very slowly in the beginning, and at the same time sugar was split up into acid products. It is clear, therefore, that 2.5 per cent. hydrochloric acid may destroy all of the bacterial spores present in cellasin, but more often, either because of a large number or through mechanical protection, a few survive and slowly develop when placed under suitable conditions, resulting eventually in rapid growth and the conversion of sugar. Professor Orndorff in his experiment obtained complete conversion of the sugar contents, and although he noted "the only effect observed being a retardation of the reaction at the beginning," yet he failed, apparently, to note the significance of that delay.

In another experiment made by Professor Orndorff, the cellasin was digested with 0.2 per cent. hydrochloric acid in an incubator for five days, then neutralized and added to the sugar solution after which acid production was noted though in lessened amount. This test when repeated and controlled bacteriologically by Referee C showed an almost complete destruction of the bacteria present in cellasin. During the first 24 hours following neutralization there was no evidence of bacterial growth and no cleavage of sugar; after two days, however, the few surviving organisms multiplied sufficiently so as to split up the sugar present to a slight extent. At the end of five days the acidity corresponded to 0.9 gm. lactic acid, while the bacterial content was only four million bacteria per c.c., or about the number to be expected in a control at the end of about from 24 to 30 hours. The significant feature, here as in the other case, is the *absence of all signs of acid production prior to the establishment of a rapid multiplication of the bacteria.*

CONTROLS WITH UNALTERED CELLASIN

Since in the foregoing experiments with antiseptics it is apparent that the action of cellasin goes hand in hand with the growth and multiplication of bacteria, it is hardly necessary to show that cellasin when used direct, i. e., without an antiseptic, will give an equally rich bacterial development. One control of this kind, however, may be given. The test was carried out as in the case of the other experiments; 0.8 gm. of cellasin was added to 400 c.c. of a 2 per cent. solution of rock candy, to which was added 2 c.c. of normal sodium bicarbonate, everything being sterile except the cellasin. The liquid promptly became cloudy and the plate counts showed a rapid multiplication. The amount of acid produced corresponded to 5.4 gm. lactic acid. The increase in bacterial contents will be seen from the appended table:

MIXTURE PLATED	NO. BACTERIA PER C.C.
At once.	2,800
9 hours.	23,500
24 hours.	680,000
48 hours.	12,000,000
72 hours.	62,000,000
96 hours.	60,000,000

THE BACTERIAL CONTENT OF CELLASIN

The number of bacteria contained in cellasin is significant. The standard dilution of 0.8 gm. cellasin in 400 c.c. of sugar solution gave counts which averaged about 3,000 bacteria per c.c., or a total of 1,500,000 per gm. of cellasin. At no time did the samples contain less than 150,000 bacteria per gm. of product.

Of still further significance is the fact that one bacterial species predominated in all three samples of cellasin examined. Moreover, this form was present largely in the spore condition, a fact established by heating experiments, as well as by the behavior of the preparation in the presence of phenol and hydrochloric acid.

It should be stated further, that in plating out the various solutions of cellasin, referred to in the preceding tests, invariably one and the same organism was found. Isolated in pure cultures it was found to be a rapid spore producer. Control experiments made with the pure spores gave essentially the same result as with cellasin. The organism in pure culture splits up cane sugar into acid products, and there can be no question as to the part it plays in the so-called action of cellasin.

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[6] In the earlier consideration of cellasin, the Council having questioned the claim that cellasin was indestructible in 25 per cent. hydrochloric acid, Mead Johnson and Co. submitted, instead, the statement that cellasin is not destroyed by 2.5 per cent hydrochloric acid.

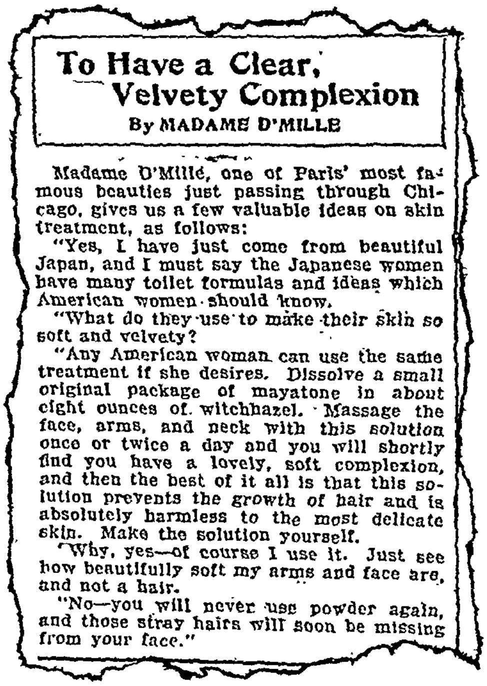
That the action of cellasin depends on the presence and growth of this organism is evident also from filtration experiments. When a solution of cellasin is filtered through a Berkefeld candle into a sterile sugar solution no change whatever results. The solution, after incubation for weeks, remains clear, no acid is produced, and no bacteria can be detected. Were a "true enzyme" present, such would hardly be the case.

The evidence on hand goes to show that cellasin is a mixture of an acid-producing organism and a protein substance, presumably casein. Referee C can, therefore, only confirm the separate findings of Referees A and B, and recommend the rejection of the preparation.

MAYATONE

A French Beauty's Japanese Prescription for American Use

The following advertisement, arranged as reading matter,, has appeared recently in the daily papers:



To Have a Clear, Velvety Complexion

By MADAME D'MILLE

Madame D'Millé, one of Paris' most famous beauties just passing through Chicago, gives us a few valuable ideas on skin treatment, as follows:

"Yes, I have just come from beautiful Japan, and I must say the Japanese women have many toilet formulas and ideas which American women should know.

"What do they use to make their skin so soft and velvety?

"Any American woman can use the same treatment if she desires. Dissolve a small original package of mayatone in about eight ounces of witchhazel. Massage the face, arms, and neck with this solution once or twice a day and you will shortly find you have a lovely, soft complexion, and then the best of it all is that this solution prevents the growth of hair and is absolutely harmless to the most delicate skin. Make the solution yourself.

"Why, yes—of course I use it. Just see how beautifully soft my arms and face are, and not a hair.

"No—you will never use powder again, and those stray hairs will soon be missing from your face."

Mayatone—which is, of course, the "joker" in this "prescription"—is put on the market by the May-a-tone Company of Detroit. It comes in small cardboard packages containing about 2½ ounces of a granular powder, pink in color, and smelling like cheap hair-oil. The price of the package is seventy-five cents. The preparation was examined in the Association's laboratory with the following results:

LABORATORY REPORT

Examination of Mayatone, a product prepared by the May-a-tone Company, Detroit, indicates that the preparation is composed essentially of magnesium sulphate and sodium borate in the following proportions:

Magnesium sulphate (Epsom salts)..............	90 per cent.
Sodium borate (borax)............................	10 per cent.

This analysis confirms the findings of the Kansas State Board of Health, which in its *Bulletin for June, 1909*, reports that Mayatone was "found to be largely magnesium sulphate, perfumed and tinted pink."

The viciousness of such nostrums as Mayatone does not lie in their ingredients but in the dishonest method by which they are exploited. For it is dishonesty, trivial, perhaps, but none the less inherent dishonesty, to attempt by implication or otherwise to make the public believe that a colored and scented mixture of epsom salts and borax is responsible for the "soft and velvety" skin of the Japanese women, and further, that such a "formula" is given to the world through the medium of a Parisian beauty. But the greater dishonesty lies in attempting to make the public believe that the "prescription" or "formula" is given as editorial information, and further that it is composed of non-proprietary articles to be had in any drug store. This form of deception is becoming increasingly common, a fact that reflects little credit on the daily press, whose cooperation makes the humbug possible. It is but fair to say, however, that newspapers of the better type will not lend their pages to this bald attempt to deceive their readers.

Committee on Credentials and Arrangements for Pharmacopeial Convention

President Horatio C. Wood has appointed the following committee on credentials and to make arrangements for the United States Pharmacopeial Convention which will be held in Washington, D. C., beginning Tuesday, May 10, 1910. Prof. O. T. Osborne (chairman), Yale University, New Haven, Conn.; Dr. H. C. Wood, Jr., University of Pennsylvania Medical Department, Philadelphia; Mr. L. S. Hilton, Washington, D. C.; Mr. W. L. Cliffe, Philadelphia.

The following officers of the convention are ex-officio members of the committee: President Dr. H. C. Wood, Jr., University of Pennsylvania Medical Department, Philadelphia; Secretary Dr. H. M. Whelpley, Washington University Medical Department, St. Louis; and Assistant Secretary Dr. Murray Galt-Motter, Hygienic Laboratory, Washington, D. C.

Correspondence

A Visit to the Pellagrosarium at Rovereto

To the Editor:—A news item in THE JOURNAL and Professor Mark's book on the "Skin Changes in Pellagra," induced me to include Rovereto in a recent tour of Europe. The visit was most profitable, and, particularly in view of the interest in pellagra in this country, I have thought it worth while to publish a short account of it.

Rovereto is a city of 11,000 inhabitants, on the *Sudbahn* (southern road) between Trent and Verona. It may easily be reached from Italy or Germany, as through trains from Berlin and Munich to Verona stop there. It is near the romantic Lake Garda and not far from the southeastern high Alps. It can also be reached in what I found a most interesting way, from the region of the Stelvio Pass, by coach and automobile from Madonna di Campiglio, going through the wild and picturesque gorges of the Sarca and rounding the snow-capped peaks of the Brenta. The city lies in the wide Val Lagarina, through which the Adige runs, the torrential Leno entering the Adige a short distance from the city. The valley is surrounded by picturesque mountains covered with vineyards, among which numerous small and characteristic villages are scattered. The city itself possesses many objects of interest, including a well-preserved medieval castle, an interesting town hall, and numerous churches and monasteries. The city once belonged to Venice, and the names of streets and squares still indicate the relationship. It is also said that the fine appearance of the inhabitants—and especially the women—and a certain genial dignity of manner, are survivals of the Venetian period. Rovereto in situation reminds one of Meran. Like the latter, Rovereto is frequented as a winter resort, and also in the fall as a "grape-cure." Snow falls only a few days every year, and a freezing temperature is rarely reached.

Pellagra has long been known in the region of Rovereto; in fact, Dr. de Probizer has recently called attention to the excellent work done in 1822 by Dr. Peter Stofella, a Roveretan, and father of the well-known E. Stofella, who will be remembered by many American students in Vienna. Ever since the Austrian government took up the campaign against pellagra, Southern Tyrol has been included in the work. In 1895 a pellagrosarium was arranged in an old building, which in 1903 was replaced by a new one built especially for the purpose. On presenting myself I was most kindly received by Dr. Bresadola, city physician, and Dr. de Probizer, director of the pellagrosarium; and I was given every facility for seeing patients and other matters of interest.

The hospital is a large two-story building, on a hill overlooking the city, though only a few minutes' walk from the center of the town. It is well-planned and all the details are modern and complete. The large plot of ground around the hospital is being graded and covered with landscape gardening and plantations of vegetables and fruits.

As it was the off season, there were only twenty-five patients in the hospital. The yearly attendance is about 150. On account of the season, also, there were no very severe cases, but the patients were clinically all the more interesting for that reason. Only two or three had any skin changes at all and these were very slight, though in two the process had been more severe in the spring; but I was told that the skin changes were by no means always present and that in fact, since Dr. Merk did his work, there had been no such interesting material as he described. Many of the patients had gastro-intestinal disturbances of rather a mild type; some had evidences of mild stomatitis; several had a peculiar tongue which the doctors told me was quite characteristic, though of course not uniform. In these cases the tongue was not enlarged, the epithelium slightly thin but not stripped, the surface of the tongue wrinkled and the epithelium having a rather unusual, pale violet color. The Italian doctors call this a "raspberry tongue," which of course is not to be confused with what is called a "raspberry tongue" in America. Some of the patients were constipated. Most of them had distinct nervous symptoms, although in many cases these symptoms were so slight that I think the anomaly would be impossible to recognize by one incapable of questioning the patients in their own dialect. Many had the appearance of mild neurasthenics, such as are commonly seen, especially in the middle west, among farmers, and often associated with gastric or sexual symptoms. When I mentioned this to Dr. de Probizer, he said it was quite true, but that his patients did not present the other features of neurasthenia, and especially did not have the characteristic history. Most of these patients were improving.

The treatment is chiefly general, with diet, baths, fresh air and medication only for particular symptoms, as iron or arsenic for anemia. When I mentioned the severe cases, such as have been so noticeable of recent years in the south, and the apparent contradictions of some members of the family having severe pellagra and others exposed to the same causes escaping, the doctors told me that that was exactly what was to be expected when pellagra occurred in a new vicinity. The predisposition, they say, varies extremely, so that one member of the family might acquire the disease and the others, though living in the same way, escape. As the disease becomes more common, and especially when it is present long enough for a predisposition to be acquired by heredity, members of the family are more generally affected, though the disease is likely not to be so severe.

The Rovereto doctors are thoroughly convinced that the cause of pellagra lies in maize. They do not venture to say what the material is, and are not at present making investigations in that direction. When I mentioned typical cases, such as I saw with Dr. Bass, in which the patients made apparently a perfectly credible denial of maize-eating, they said there was no reason why that should not be so, but in their own observation such cases did not occur. Their patients all eat corn, but not, as among the maize-eaters in the south, in the form of corn-bread. They told me that corn-bread should not be capable of producing pellagra. As they find it, it occurs in people who eat "polenta," which corresponds to our corn-meal mush. Properly prepared, this should be cooked for a half-hour, but as a matter of fact it is often imperfectly cooked. The corn concerned in these cases is not raised in the district. Very little maize is raised in southern Tyrol, and the maize in the neighboring Piedmont does not get into the markets. The maize comes chiefly from Roumania and La Plata, and from both of these places often comes obviously moldy. Besides having fed on the diseased maize, the pellagra sufferers are often underfed; sometimes they eat only polenta, and not enough of that. They have also often gone without salt in their food. Other causes considered of importance are alcoholism and syphilis; in fact, in many of the cases, the symptoms of alcoholism were difficult to distinguish from those of pellagrous nervous symptoms.

The treatment of patients in the pellagrosarium is only a small part of the movement against pellagra. The institution serves as a center of statistical, prophylactic and therapeutic effort. Lectures are given, illustrations of the disease are shown, the raising and preparation of maize for food are described, the characteristics of healthy and diseased maize shown by a large collection of specimens. There is maize inspection all over the district. The patients in the institution are taught the advantage of mixed diet, and part of the hospital grounds is used to teach the methods of raising various fruits and other food materials, in order to encourage peasants to introduce these on their own farms. They are even permitted to work on the plantations, provided their conditions permit. The free distribution of salt to those who need it is one of the numerous details carried out. Every doctor in the district assists in keeping up a pellagra census. Every patient discovered is investigated and his data written out on a history sheet printed for the purpose. The finding of one patient is followed by an investigation of all the relatives, and all the findings are written out and the histories sent to the pellagrosarium, where they are filed according to district. Every year a report is made on each case, so that the outcome is constantly known. Although the Rovereto pellagrosarium is not arranged for extensive scientific investigations, a great deal of most excellent work is done there every year. Unfortunately for most of us the publications are almost inaccessible, inasmuch as they are printed in Italian, the language of the district. The yearly "Reports" of the work of the pellagrosarium are very well done. Other clinical and general articles are published as official documents, and still others are published in the *Atti d. i. r. Accad. di Scienze, Lett. ed Arti degli Agiati in Rovereto*, a most creditable publication, reflecting the general high standard of scientific interest in the community.

George Dock, New Orleans.

The Sections and the U. S. Pharmacopeia

To the Editor:—In The Journal, September 4, pp. 791, 793, 796., there were published reports of three committees on the revision of the U. S. Pharmacopeia, namely those of the committees of the Sections on Practice of Medicine, on Ophthalmology and on Stomatology.

There are certain features in these reports well worthy of careful consideration and as they appeared at a time when many physicians had not returned from their vacation I am taking the liberty of calling attention to a few points. These committees were appointed to the sections at the request of the Committee on the U. S. Pharmacopeia of the American Medical Association. The latter committee was appointed by the Board of Trustees at the direction of the House of Delegates in compliance with a recommendation of the Section on Pharmacology and Therapeutics. This committee felt that it could best fulfil the purpose for which it was appointed by ascertaining the attitude of physicians toward the admission to and omission of articles from the Pharmacopeia, and it believed that this could best be accomplished by appealing to the various sections of the Association.

The reports of the committees should be read in their entirety, but it may be worth while to call attention in this place to a few points:

1. *Committee of the Section on Practice of Medicine.*—It should be noted that this committee believes that the present attitude of the U. S. Pharmacopeia toward permanently controlled substances (i. e., proprietaries) should be maintained, namely, that they should not be admitted.

Admissions: The following articles are recommended for admission:

Calcium lactate
Phenolphthalein
Arsenic preparations suitable for hypodermic injection; perhaps sodium cacodylate and sodium arsanilate
Theobromin and theobromin-sodio-salicylate
Bile salts
Diacetyl-morphin

Omissions: Fifty-one drugs and their preparations are recommended to be omitted (THE JOURNAL, Sept. 4, p. 792).

2. *Committee of the Section on Ophthalmology.*—This committee states that it considered the admissions and omissions from the purely ophthalmic standpoint. The committee selected fourteen drugs which they thought might profitably be considered for inclusion in the Pharmacopeia. These were submitted to the members of the Section with the request that each indicate the six which he considered the most important. The six receiving the largest number of votes were:

Adrenalin hydrochlorid
Dionin
Argyrol
Fluorescein
Protargol
Holocain hydrochlorid

A point of special interest in this report is that nearly all of the drugs on which a favorable report is made are proprietary. Whatever may be the attitude of the next Revision Committee toward proprietary medicines, such a report as this shows the serious consideration which they must receive.

Omissions:

Argenti nitras mitigatus
Oleate of cocain
Oleate of atropin
Salicylate of physostigmin
Extractum scopolæ
Extractum stramonii

3. *Committee of the Section on Stomatology.*—This Section makes the following recommendations:

Admissions:

Liquid nitrous oxid
Liquid oxygen
Novocain
Suprarenal alkaloid
Protein silver compound
Magnesium dioxid
Sodium perborate
Perhydrol
Trioxymethylen
Veroform (or a similar solution of formaldehyd)
[illegible]
[illegible]

The list of drugs recommended for admission by this committee is larger than that of the other committees, but any one reading this splendid scientific report must feel that it is written by men who know whereof they speak and that these drugs (or their equivalents) represent real needs. A very significant feature of this report is a brief resolution which the committee requested the Section to adopt. This resolution points out that the present constitution of the Pharmacopeial Convention makes no provision for representation of the dental profession and requests that provision be made whereby the Section on Stomatology of the American Medical Association shall be entitled to representation on the Committee of Revision.

The more carefully these reports are studied the more food for thought they are found to contain. It is not possible or desirable to discuss them at present. One point should, however, be mentioned: There is nothing in these reports to indicate that representative medical men feel a need for the complex proprietary mixtures with which the American market is flooded, a supposed need which the last Committee of Revision endeavored to meet by the inclusion of a number of formulas for similar mixtures. Another point worthy of consideration is the number of preparations recommended by these committees for omission from the Pharmacopeia which were admitted only in the last revision (which appeared in 1905). The most reasonable explanation of this is that the last Committee on Revision was not sufficiently well informed as to the wishes of the medical profession as to the scope of the Pharmacopeia. Finally, the resolution suggested by the Section on Stomatology (that the dental profession be entitled to representation on the Committee of Revision) brings up the large question whether the basis of representation in Pharmacopeia matters is not very far from just. Every incorporated college of medicine and of pharmacy, the incorporated state medical and pharmaceutical societies and certain other bodies are entitled to representation, but the great American dental profession—the profession which gave the world the first general anesthetic, for example—is not given any representation whatever. (In this connection it may also be pointed out that veterinary medicine also receives no recognition by the U. S. Pharmacopeia, although its needs are recognized by the Food and Drugs Act and by most foreign pharmacopeias).

REID HUNT, Washington, D. C.

A Protest Against the Arrogant Surgeon Specialist

To the Editor:—I wish to express my views in regard to the present agitation which is being voiced by some of our older practitioners with reference to a special course in surgery for younger men. I at least have the courage of my opinions and in justice to myself and many others engaged in general practice who are called on to do surgery when occasion arises to call a halt on the so-called specialists in surgery, who wish to claim the field entirely for themselves, and on one plea and another enter a protest of incompetency against their competitors.

What right may I ask has any one engaged in the practice of medicine or surgery to say how much the other man shall do, or not do? Are we not all licensed under the same state laws and are not our qualifications equally as valid as the men who wish to dictate how a man should be specially qualified to do an abdominal section. As a matter of fact, with the exception of the mechanical dexterity acquired by practice, the balance is in favor of the younger man. He has the advantage of a higher education and a better and longer training.

Most of the men who value their opinions to-day as something very superior to that of the younger men, lack the saving grace of even a good high school education and I venture to say that if these men were called on to take a state board examination such as are now being held in several states, would make a sad failure of it.

I have no doubt that at the present day there is much more competition and younger men do as much of their surgery as they can without calling in the old timers, or seek the advice of men of their own class or years, and hence the outcry, but "Time and tide waits for no man."

Every one has the same opportunity and it depends largely on the personal equation as to what advantage is taken of it. The mere fact that a man has had an extra year as an interne in a large hospital does not make him a surgeon any more than the man after graduation who is on his own hook for the same length of time in a general practice; of the two the latter has at least self reliance—and has learned to think and act for himself, he is practically that much ahead of the other fellow.

C. VAUGHAN, Detroit.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

PHYSIOLOGIC ACTION OF CALCIUM LACTATE

To the Editor:—A case of epilepsy treated by calcium lactate is reported in THE JOURNAL, Aug. 14, 1909, p. 527. I have not been able to find any literature on the physiologic action of this salt. I would be thankful to have you describe its action in Queries and Minor Notes.

HUBERT H. JOHNSON, Salinas, Mex.

ANSWER.—The calcium salts appear to increase the energy of the heart's action; the presence of calcium in the nourishing liquid is absolutely essential for the continuance of cardiac action, not only in cold but also in warm blooded animals. Calcium in small doses stimulates both voluntary and involuntary muscles. In small doses calcium chlorid increases the functional activity of the motor nerve trunks, but in large doses it paralyzes the cerebral cortex, the motor centers of the spinal cord and the motor nerve trunks. Calcium salts are essential to the process of coagulation of the blood It is claimed that calcium chlorid and calcium lactate increase the coagulability of the blood for which reason they have been used to prevent hemorrhage. Recent investigations seem to prove that it is not possible to shorten coagulation time by the calcium salts. The question as to their employment for this purpose is therefore *sub judice* (see editorial in THE JOURNAL, March 6, 1909, p. 788, also Addis, T.: *Quart. Jour. Med.*, January, 1909, also *Quart. Jour. Exper. Physiol.*, 1908, 1, 305, Abstr. in THE JOURNAL, April 17, 1909, p. 1283).

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Dr. Robert Wells Library
[illegible] Medical College

According to J. D. Zoethout (*Amer. Jour. Physiol.*, February, 1909. abstr. in The Journal, March 27, 1909, p. 1060), calcium favors the relaxation of potassium contraction. MacCallum and Voegtlin (*Jour. Exper. Med.*, 1909, xi, 118) have found that the nerve manifestation of tetany can be held in check by the administration of calcium salts.

In animals after parathyroidectomy there occurs an increased elimination of calcium in the urine and feces which results in a marked reduction of calcium content of the blood and brain and the consequent development of hyperexcitability of the nerve cells. The lack of calcium may therefore be one of the causes of epilepsy and suggests the reason for the use of these salts in that disease. It is believed that disturbances in the calcium metabolism are closely connected with abnormalities of the ductless glands, thyroid, pituitary, etc. (W. B. Bell and P. Hick, *Brit. Med. Jour.*, Feb. 27, 1909).

The action of the lactate of calcium is similar to that of the chlorid but it is less irritating and therefore it may be used hypodermatically.

WANTED: OUTDOOR WORK-CURE SANITARIUM FOR ALCOHOLISM

A correspondent in the middle west asks us where there is a sanitarium—perhaps on a large farm—where a man of 40, who has a cultured mind and a vigorous physique, would receive scientific treatment for alcoholism, together with physical work and mental diversion. Perhaps some of our readers can make suggestions.

ALCOHOL STRENGTH FOR CLEANING HANDS

To the Editor:—In scrubbing the hands preparatory to doing an operation, after the use of soap and water for ten minutes, what strength alcohol should be used, 70 per cent. or 95 per cent.?

E. L. C., New York.

Answer.—Alcohol of 70 per cent. strength should be used because the 95 per cent. alcohol coagulates albumins to such an extent as to nullify the purpose for which it is used—to free the skin of fats in which germs may be encased.

The Public Service

Medical Department of the Army

Changes for the week ended Oct. 23, 1909:

Blanchard, R. M., capt., granted sick leave of absence for 1 month.

Davidson, W. F., capt., granted leave of absence for 1 month.

Wison, J. S., major, ordered to Alcatraz Island, Cal., for duty at the Pacific Branch, U. S. Military Prison.

Thornburgh, R. M., capt., relieved from duty at the Pacific Branch, U. S. Military Prison, Alcatraz Island, Cal., and ordered to the A. G. Hospital, San Francisco, for duty.

Winter, F. A., major, relieved from duty at Fort Myer, Va., and ordered to duty in the office of the Surgeon-General.

Hoff, J. Van R., col., relieved from duty as chief surgeon, Dept. of the Lakes, to take effect on the relief of Col. Charles B. Bryne, M. C., from duty as chief surgeon, Dept. of the East; will then proceed to Governor's Island, N. Y., for duty as chief surgeon, Dept. of the East.

Fuller, L. A., major, granted leave of absence for 14 days.

Raymond, T. U., major, granted leave of absence for 1 month and 15 days.

Heysinger, J. D., capt., granted leave of absence for 1 month.

Marvin, M. F., M. R. C., honorably discharged from the Service of the United States, his services being no longer required.

Adams, P. A., M. R. C., ordered to active duty; will proceed to Schofield Barracks, H. T., for duty.

Holmes, T. G., M. R. C., granted leave of absence to December 15, and honorably discharged from the Service on that date.

Cole, Blase, M. R. C., ordered to active duty; will proceed to Fort Crock, Neb., for duty.

Flynn, T. J., M. R. C., ordered to active duty; will proceed to Fort Ethan Allan, Vt., for duty.

Pinquard, Jos., M. R. C., granted sick leave of absence for 4 months.

Pargon, J. A., M. R. C., honorably discharged from the Service of the United States, his services being no longer required.

Drake, P. G., M. R. C., granted leave of absence for 1 month.

Bailey, Edward, M. R. C., order for Philippine Service revoked.

Freeland, H. L., M. R. C., relieved from duty at Fort Leavenworth, Kan.; will proceed to San Francisco, and sail December 6th for Philippine Service.

Medical Corps of the Navy

Changes for the week ended Oct. 23, 1909:

Shippen, L. P., asst.-surgeon, on reporting at the Navy Department ordered to the Navy Yard, Portsmouth, N. H., for duty at the Naval Prison.

Camerer, C. B., acting asst.-surgeon, appointed acting assistant-surgeon, ordered to instruction at the Naval Medical School, Washington, D. C.

Pryor, J. C., surgeon, detached from command of the Naval Hospital, Yokohama, Japan, and ordered home in the United States, via Europe, with permission to delay 3 months en route.

Bogert, E. S., Jr., surgeon, detached from the Navy Yard, New York, N. Y., and ordered to command the Naval Hospital, Yokohama, Japan.

Foster, T. G., asst.-surgeon, detached from duty at the Naval Prison, Navy Yard, Portsmouth, N. H., granted leave until November 15, on completion thereof ordered to Washington, D. C., for examination and then to wait orders.

Leach, P., medical inspector, detached from command of the Naval Hospital, Newport, R. I., granted leave for 1 month, and on expiration thereof ordered to command the Naval Hospital, Las Animas, Colo.

Hibbett, C. T., medical inspector, detached from command of the Naval Hospital, Las Animas, Colo., and ordered home to wait orders.

McCormick, A. M. D., surgeon, ordered to duty at the works of the General Electric Company, Schenectady, N. Y.

Hathaway, G. S., P. A. surgeon, detached from the *Cheyenne* and ordered to duty in connection with the fitting out of the *New Orleans* and to duty on board that vessel when commissioned.

Public Health and Marine-Hospital Service

Changes for the seven days ended Oct. 20, 1909:

Kerr, J. W., asst. surgeon-general, and Lavinder, C. H., P. A. surgeon, detailed to represent the Service in a National Conference on Pellagra, to be held in Columbia, S. C., Nov. 3-4, 1909.

Woodward, R. M., surgeon, granted 14 days' leave of absence from Oct. 16, 1909, on account of sickness.

Robertson, H. M., P. A. surgeon, leave granted for 2 months from Oct. 1, 1909, amended to read 2 months from Oct. 4, 1909.

Roberts, Norman, P. A. surgeon, granted 2 days' leave of absence from Oct. 13, 1909, under Paragraph 191, Service Regulations.

Sweet, E. A., P. A. surgeon, Bureau order of Oct. 12, 1909 suspended.

Sweet, E. A., P. A. surgeon, directed to accompany a deported alien leper sailing from New York, Oct. 20, 1909.

Frost, W. H., P. A. surgeon, granted 9 days' leave of absence from Oct. 23, 1909.

Ashford, F. A., P. A. surgeon, Bureau order of Oct. 12, 1909 suspended.

Wollenberg, R. A. C., asst.-surgeon, leave granted for 2 months from Sept. 10, 1909, amended to read 2 months from October 6. 1909.

Kolb, L., asst.-surgeon, relieved from duty at Baltimore, and directed to proceed to the Reedy Island Quarantine Station and report to the Medical Officer in Command for duty and assignment to quarters.

Barnes, W., acting asst.-surgeon, granted 30 days' leave of absence from Nov. 1, 1909.

Bean, L. C., acting asst.-surgeon, granted 5 days' leave of absence from Oct. 23, 1909.

Curley, C. P., acting asst.-surgeon, leave granted for 21 days from Sept. 25, 1909, amended to read 16 days from Sept. 21, 1909.

Delgado, J. M., acting asst.-surgeon, granted 22 days' leave of absence from November 5, 1909.

Fisher, C. E., acting asst.-surgeon, granted 16 days' leave of absence from Oct. 15, 1909.

Gustetter, A. L., acting asst.-surgeon, leave granted for 5 days from Oct. 13, 1909, amended to read 5 days from Oct. 16, 1909.

Kimmet, W. A., acting asst.-surgeon, granted 30 days' leave of absence from Oct. 15, 1909.

Onuf, B., acting asst.-surgeon, granted 4 days' extension of annual leave from Oct. 5, 1909, on account of sickness.

Onuf, B., acting asst.-surgeon, granted 23 days' leave of absence from Oct. 21, 1909.

Wise, A. H., acting asst.-surgeon, granted 15 days' leave of absence from October 16, 1909.

APPOINTMENT

Dr. Clifton R. Wallace, appointed an Acting Assistant Surgeon, for duty at Norfolk, Va

RESIGNATION

Acting Assistant Surgeon A. H. Wise, resigned, to take effect Oct. 31, 1909.

BOARD CONVENED

Board of medical officers convened to meet at Seattle, Wash., Oct. 16, 1909, for the purpose of examining an alien. Detail for the board: Passed Assistant Surgeon M. W. Glover, chairman; Assistant Surgeon C. W. Chapin; Acting Assistant Surgeon F. R. Underwood, recorder.

Health Reports

The following have been reported to the Marine-Hospital Service, during the week ended Oct. 22, 1909:

SMALLPOX—UNITED STATES

District of Columbia: Washington, Oct. 2-9, 3 cases.
Indiana: Fort Wayne, Sept. 18-Oct. 2, 15 cases.
New York: Buffalo, Oct. 2-9, 1 case.
North Carolina: Charlotte, Oct. 1-8, 3 cases.
Ohio: Cincinnati, Oct. 2-9, 1 case; Dayton, 1 case.
Oklahoma, general. Aug. 1-31, 18 cases.
Wisconsin: La Crosse, Oct. 2-9, 1 case.

SMALLPOX—FOREIGN

Canada: Hamilton, Sept. 1-30, 2 cases.
Gibraltar, Sept. 19-26, 2 cases.
India: Calcutta, Aug. 21-Sept. 4, 2 deaths; Madras, Sept. 4-10, 1 death; Rangoon, Aug. 28-Sept. 4, 1 death.
Italy: Genoa, Sept. 1-30, 7 cases; Naples, Sept. 26-Oct. 2, 17 cases, 4 deaths.
Java: Batavia, Aug. 21-28, 4 cases, 1 death.
Malta, Sept. 4-11, 2 cases.
Mexico: Veracruz, Sept. 26-Oct. 3, 1 case, 1 death, imported.
Portugal: Lisbon, Sept. 11-25, 13 cases.
Russia: Moscow, Sept. 11-25, 7 cases, 2 deaths; Odessa, Sept. 18-25, 2 cases, 1 death; Riga, 2 cases; Warsaw, Aug. 14-28, 2 deaths.
Spain: Valencia, Sept. 18-25, 1 case; Vigo, 1 death.
Turkey: Smyrna, Aug. 5-Sept. 17, 79 deaths.

YELLOW FEVER

Brazil: Para, Sept. 11-25, 4 cases, 2 deaths.
Ecuador: Guayaquil, Sept. 11-18, 3 deaths.

CHOLERA—INSULAR

Philippine Islands: Manila, Aug. 28-Sept. 4, 8 cases, 6 deaths; Provinces, 201 cases, 114 deaths.

CHOLERA—FOREIGN

China: Hankow, Aug. 21-28, 1 case.
India: Bombay, Sept. 7-14, 22 deaths; Calcutta, Aug. 21-Sept. 4, 10 deaths; Rangoon, Aug. 28-Sept. 4, 3 deaths.
Japan: Kobe, Sept. 6, 3 cases, 1 death.
Korea: Seoul, Sept. 23, present.
Netherlands: Hansweert, Sept. 27-29, 2 cases; Lobik, 1 case.
Russia, general, Sept. 18-Oct. 1, 1,365 cases, 587 deaths; St. Petersburg, 510 cases, 201 deaths.

PLAGUE—INSULAR

Hawaii: Hilo, Sept. 19, 1 case, vicinity.

PLAGUE—FOREIGN

Chile: Iquique, Sept. 8, 2 cases in lazaretto.
Ecuador: Guayaquil, Sept. 11-18, 11 deaths.
India, general, Aug. 21-28, 2,297 cases, 1,811 deaths, Aug. 28-Sept. 4, 2,837 cases, 1,852 deaths; Bombay, Sept. 7-14, 9 deaths; Calcutta, Aug. 21-28, 16 deaths; Rangoon, Aug. 28-Sept. 4, 7 deaths.
Indo-China: Saigon, Aug. 21-Sept. 4, 15 cases, 14 deaths.
Japan: Kobe, Sept. 4-11, 7 cases, 6 deaths.
Peru, general, Aug. 20-27, 16 cases, 12 deaths.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month: "The Exanthemata"—First Weekly Meeting

ANATOMY OF THE SKIN

Epidermis, stratum corneum, stratum lucidum, stratum granulosum, stratum mucosum. Corium. Pars papillaris, pars reticularis. Subcutaneous layer. Blood vessels, lymph vessels, muscles, glands, appendages.

PHYSIOLOGY OF THE SKIN

Protective function, heat-regulation, tactile and pain sensations, respiratory and secretory functions, elimination.

MEASLES (RUBEOLA)

Period of incubation, mode of infection, duration of infection. Symptoms, period of invasion, prodromal rashes. Eruptive period, character of eruption, varieties of eruption, desquamation. Complications. Throat, larynx, lungs, digestive system, nervous system, ears and eyes.

Prognosis. Age and condition of patient, season, character of epidemic, complications.

RUBELLA (GERMAN MEASLES)

Symptoms. Period of incubation. Invasion. Eruption, character and variations, desquamation. Diagnosis and differentiation from measles and scarlet fever.

REFERENCE BOOKS FOR THE THIRD MONTH

Welch and Schamberg: Acute Contagious Diseases.
Schamberg: Skin and Infectious Diseases.
Abbott: Hygiene of Transmissible Diseases.
Fox: Smallpox.
Text-books on Pediatrics and on Practice of Medicine.

Treatment of Pellagra.—Acting Assistant Surgeon Moorer (*Public Health Reports*, Oct. 15, 1909) states that he has had during the past five years six cases of pellagra under his observation at the Georgetown, S. C., infirmary. The majority of the cases were in negroes between the ages of 20 and 40. Five patients have completely recovered, the fate of the sixth, who was sent to the state insane asylum being unknown to him. The treatment employed in these cases was strychnin, arsenic and tincture of iron in large and increasing doses, and a strict dietary of two or three quarts of milk with from eight to ten raw eggs a day.

Marriages

DAVID HENRY, M.D., to Miss Anna K. Lechell, both of Philadelphia, October 27.

J. D. LEONARD, M.D., to Miss Margaret Smith, both of Bristol, Tenn., October 4.

ASBURY HULL, M.D., Augusta, Ga., to Miss Martha Miller, of Macon, Ga., October 26.

WILLIAM B. SHICK, M.D., to Miss Mable D. Tully, both of Philadelphia, September 21.

GEORGE CONNOR TRAWICK, M.D., to Miss Alice Rodes, both of Nashville, Tenn., October 10.

THOMAS W. PENROSE, M.D., to Miss Esther M. Eastburn, both of Philadelphia, October 9.

RAY RHINALDO HARRIS, M.D., Dubuque, Iowa, to Miss Ethel Alice Larkin, of Chicago, October 20.

AL. EDGAR BILLINGS, M.D., Topeka, Kan., to Miss Clara A. Jaeger, of Rich Hill, Mo., September 29.

FLETCHER J. WRIGHT, M.D., Fork Union, Va., to Miss Anne Davis Seay, at Blackstone, Va., October 14.

A. GAZAB, M.D., Cairo, Egypt, to NELLIE CHRISTINE HAMEISTER, M.D., of Kirkwood, Mo., October 25.

SMITH HAMILL HORNE, M.D., Philadelphia, Pa., to Mrs. Caroline S. Reed, of Wayne, Pa., October 14.

WILLIAM MELVIN RUCKLE, M.D., Grand Rapids, Wis., to Miss Olive Bemis, of Neenah, Wis., October 12.

ROY ERNEST SEITZ, M.D., Musselshell, Mont., to Miss Rosa Waters Ridgely, of Washington, D. C., October 7.

ARCHIBALD EASTWOOD CHACE, M.D., Tarrytown, N. Y., to Miss Ruth Lombard, of Nyack, N. Y., October 16.

LEO L. C. LEMOINE, M.D., St. Louis, Mo., to Miss Kate Zimmer, of Waterloo, Ill., at Clayton, Mo., October 3.

W. L. DUBOIS, M.D., Towner, N. D., to Miss Mayme L. Dougherty, of Rockwell City, Iowa, September 30.

CHARLES WALLACE EDMUNDS, M.D., Ann Arbor, Mich., to Miss Lillian Virginia Kaminski, of Richmond, Ind., September 15.

Deaths

Randal R. Hunter, M.D. Jefferson Medical College, Philadelphia, 1876; of Fulton, Kan.; a member of the American Medical Association; gold medalist of the Howard Association of Memphis, Tenn., 1878; a member of the Association of Military Surgeons of the United States; acting assistant surgeon U. S. Army, and major and brigade surgeon U. S. V., during the Spanish-American War, with service in Cuba; city chemist and a member of the Board of Health of Kansas City, Mo., from 1887 to 1894; emeritus professor of chemistry in the University Medical College of Kansas City; died in Hot Springs, Ark., October 13, from paralysis, aged 54.

Lewis Albert McFadden, M.D. Kentucky School of Medicine, Louisville. 1881; a member of the American Medical Association, and vice-president of the Peoria (Ill.) Medical Society; a member of the staff of St. Francis Hospital, Peoria; formerly physician of Peoria county and a member of the city board of health; chairman of the local board of U. S. pension examining surgeons; in 1896 elected alderman, and in 1901, appointed health commissioner; in 1886, alderman of Aurora, Texas, and afterward postmaster of Virginia, Mo.; died at his home October 16, from cancer of the intestine, aged 61.

Leonard Pearson, B.S.; V.M.D.; M.D. (Hon.) University of Pennsylvania, Philadelphia, 1907; of Philadelphia; dean of the Department of Veterinary Medicine in his alma mater; formerly state veterinarian of Pennsylvania; and a member of the Pennsylvania Live Stock Sanitary Board; a member of the department of the health of the State of Pennsylvania and the board of health of Philadelphia; one of the foremost exponents of preventive veterinary medicine; died suddenly in Spruce Creek, New Foundland, September 20, aged 41.

William Hudson Pitt, M.D. University of Buffalo, N. Y., 1879; for eighteen years professor of physics in the Buffalo High School; in 1881 and 1882, state analyst of foods and drugs; and in 1884 appointed professor of chemistry and physics in Niagara University; a biologist and chemist occupying a commanding position among the scientists of the country; died at his home in Friendship, N. Y., July 11, aged 78.

William A. Gordon, M.D. Rush Medical College, Chicago, 1869; of Winnebago, Wis.; a member of the State Medical Society of Wisconsin; a veteran of the Civil War; for fifteen years superintendent of the Northern Hospital for the Insane, Oshkosh; an eminent phys[illegible] alienist, and brilliant scholar; died in t[illegible] October 12, from hemorrhage, due to a [illegible]lder, aged 62.

James L. Mounts, M.D. Starling Medical College, Columbus, Ohio, 1856; a member of the American Medical Association; surgeon of the Thirty-first and One Hundred and Forty-fourth Ohio Volunteer Infantry during the Civil War; state senator in 1879; surgeon to the Panhandle and Columbus and Hocking Valley railroads; died at his home in Morrow, Ohio, October 21, aged 78.

Joseph Lewis Snively, M.D. Jefferson Medical College, Philadelphia, 1877; a member of the American Medical Association and Cumberland Valley Medical Association; president of the Medical Society of Franklin County, Pa., in 1901; and afterward district censor for Franklin county; died at his home in Shady Grove, Pa., October 14, from typhoid fever, aged 58.

George Clark McNett, M.D. New York University, New York City, 1881; a member of the American Medical Association; local surgeon for the Delaware, Lackawanna and Western Railroad; for several years chief surgeon of the State Soldiers' Home, Bath, N. Y.; died in that place, October 15, from disease of the kidney, aged 52.

Lafayette Shoemaker, M.D. Kentucky School of Medicine, Louisville, 1893; a Confederate veteran; a member of the State Medical Association of Texas; and formerly vice-president of [illegible] Choctaw County (Ala.) Medical Society.; a practitioner [illegible] more than thirty-five years; died at his home in Axtell, [illegible]ptember 23, aged 68.

Lewis Henry Bodman, M.D. College of Physicians and Surgeons, New York City, 1863; a member of the American Medical Association; consulting physician to St. Vincent's and the Toledo Hospital, Toledo, Ohio; a medical cadet in the Federal service during the Civil War; died at his home, October 18, aged 69.

Alexander Macnab, M.D. University of Aberdeen, Scotland, 1861; a member of the Iowa State Medical Society; assistant surgeon of the Twelfth Missouri Volunteer Infantry during the Civil War; died at the home of his son in Rock Rapids, Iowa, July 28, from cerebral hemorrhage, aged 74.

Maurice John Stack, M.D. University of Georgetown, Washington, D. C., 1876; for thirty-three years assistant superintendent of St. Elizabeth's Hospital, the Government Hospital for the Insane, Washington; died in that institution, October 17, from cancer of the throat, aged 55.

Thomas Keefe, M.D. Cooper Medical College, San Francisco, 1882; for many years a practitioner of Snohomish, Wash.; and a member of the Snohomish County Medical Society; died suddenly at his home in Georgetown, Wash., January 3, from heart disease, aged 71.

Henrietta Payne Westbrook, M.D. Woman's Medical College of Pennsylvania, 1880; of Philadelphia; president of the Health Protective Society and the Woman's Press Club of Philadelphia; died at her summer home in Burrillville, R. I., October 16, aged 74.

Rebecca Cooper Hallowell, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1878; formerly a medical missionary to the Indians in Southern California; died at her home in Haddonfield, N. J., October 12, from heart disease, aged 77.

Josiah M. Thompson, M.D. Jefferson Medical College, Philadelphia, 1875;; a veteran of the Civil War; and once president of the federal board of pensions of Kansas; died at his home in Kansas City, Kan., October 11, from bronchitis, aged 66.

Nova William Wingo, M.D. University Medical College of Kansas City, Mo., 1892; formerly of Harris, Mo.; died in his office in Chillicothe, Mo., October 11, from the effects of carbolic acid, self-administered, it is believed with suicidal intent, aged 45.

Ralph A. Polly, M.D. Memphis (Tenn.) Hospital Medical College, 1902; of Rogers, Texas; a member of the State Medical Association of Texas; died in a hospital in Temple, Texas, August 21, after an operation for the removal of gall-stone, aged 36.

John Williams (license, Ind., 1897); for more than sixty-five years an Eclectic practitioner of Clay county, Ind.; a veteran of the Civil War; died at the home of his daughter, near Bowling Green, October 4, from senile debility, aged 97.

William Joseph Dodd, M.D. Bellevue Hospital Medical College, New York City, 1865; surgeon on the U. S. Army Hospital Steamer *Deford*, during the Civil War; died at his home in Jersey City, N. J., October 20, from senile debility, aged 79.

Edmund B. Mosher, M.D. Louisville (Ky.) Medical College, 1871; surgeon of the One Hundred and Seventy-Second Ohio Volunteer Infantry during the Civil War; died at his home in Columbus, Ohio, October 11, from disease of the liver, aged 71.

Solomon Apfel, M.D. University of Lemberg, Austria, 1871; once a member of the Austrian Chamber of Deputies; and mayor of Kolboszzawa, Austria; died at his home in Brooklyn, N. Y., October 16, from paralysis, aged 65.

Milton Homer Collins, M.D. University of Tennessee, Nashville, 1884; a member of the Medical Society of the State of Alabama; died at his home in North Birmingham, October 16, from cerebral hemorrhage, aged 51.

Hammond Hampton Garner, M.D. University of Maryland, Baltimore, 1902; of Lake Toxaway, N. C.; surgeon of the steamer *Dextero*; died in the City Hospital, Santos, Brazil, South America, in July, aged 31.

William Levi Fleming, M.D. Missouri Medical College, St. Louis, 1868; a member of the Shelby County (Ill.) Medical Society; died at his home in Shelbyville, October 10, from disease of the lungs, aged 74.

Abram Canfield (license, Minn., exemption certificate, 1883); for forty-three years a practitioner of Sauk Center, Minn.; died at the home of his son in that city, October 7, from senile debility, aged 87.

Joseph Saunders, M.D. Indiana Medical College, Indianapolis, 1874; for twenty years president of the Madison County, Ind., Farmers' Insurance Company; died at his home near Anderson, recently, aged 60.

James McGuire, M.D. New York University, New York City, 1857; formerly a member of the Medical Society of the State of North Carolina; died at his home in Mocksville, August 21, aged 80.

Frederick B. Williamson, M.D. Starling Medical College, Columbus, Ohio, 1888; a member of the Ohio State Medical Association; died at his home in Massillon, October 14, from pneumonia, aged 44.

Frank R. Calhoun, M.D. Medical College of the State of South Carolina, Charleston, 1867; for four years a surgeon in the Confederate service; died at his home in Cartersville, Ga., October 15, aged 74.

Alfred Swift Houghton, M.D. College of Physicians and Surgeons, New York City, 1880; for several years connected with the New York civil service; died at his home in St. Albans, Vt., July 29.

Charles Willard Pierce, M.D. Harvard Medical School, Boston, 1900; a member of the American Medical Association; died at his home in Allston, Boston, October 9, from typhoid fever, aged 37.

William Newton Rand, M.D. University of Vermont, Burlington, 1883; examiner in lunacy; died at his home in Binghamton, N. Y., September 25, from cerebral hemorrhage, aged 50.

Roger Button Smith, M.D. Hospital College of Medicine, Louisville, 1897; of Orchardville, Ill.; is said to have committed suicide, by gunshot wound, at his home, October 16, on account of domestic troubles, aged 37.

Jacob Goldstein, M.D. Bellevue Hospital Medical College, 1895; of New York City; died in Mount Sinai Hospital, October 13, from acute yellow atrophy of the liver.

Joseph W. Davenport., M.D. Medical College of the State of South Carolina, Charleston, 1848; of Tyler, Texas; died at the home of his daughter in that place, October 14, aged 84.

John W. Alford, M.D. Eclectic Medical Institute, Cincinnati, 1875; a veteran of the Civil War; of Mullinville, Kan.; died in a hospital in Hutchinson, Kan., October 11, aged 67.

George T. Snode, M.D. Starling Medical College, Columbus, Ohio, 1888; a member of the Ohio State Medical Association; died at his home in Sarahsville, October 13, aged 51.

Villanovia Mason Burdick, M.D. University of Vermont, Burlington, 1887; died at his home in Dexter, Maine, August 23, from cancer of the stomach, aged 57.

Oliver Henry Reiley, M.D. St. Louis University, School of Medicine, 1906; died at his home in Red Oak, Iowa, September 12, from acute gastritis, aged 27.

James B. Statler (years of practice, Pa.); for thirty-five years a practitioner of New Paris, Pa.; died at his home, September 27, from dysentery, aged 65.

William H. Mann, M.D. Atlanta (Ga.) Medical College, 1892; of Glennville, Ga.; died in Savannah, October 17, from septicemia, due to a carbuncle, aged 43.

William Ramsey, (license, years of practice, Ohio); for fifty-seven years a practitioner of Delta; died at his home in that place, October 10, aged 82.

M. H. Christian (license, Ill.); for many years a practitioner of Camargo, Ill.; died at his home in Summit township, near Effingham, October 8.

Abram Duane Salisbury, M.D. University of Michigan, Ann Arbor, 1865; died at his home in Midland, Mich., October 16, from septicemia.

Oswald Edward Jacob Kauffman, M.D. Tulane University, New Orleans, La., 1905; died at his home in Plaisance, La., October 8, aged 26.

David Hamilton, M.D. Queen's University, Kingston, Ont., 1862; of Batavia, N. Y.; died in the Batavia Hospital, October 8, aged 70.

William Rhea Douthit, M.D. Vanderbilt University, Nashville, 1892; died at his home in Louisville, Tenn., October 16, aged 48.

Harry B. Pleasants, M.D. Medical College of Virginia, Richmond, 1879; died at his home in Hollins, Va., October 15, aged 54.

Barbara Albrecht, (license, Ohio, ten years practice, 1896); died at her home in Cincinnati, March 28, from diabetes, aged 74.

Sara Jane Williams (license, Mass., 1894); died in Boston, Mass., Sept. 27, 1908, from general paresis, aged 67.

W. J. Trent, (license, N. C.); died at his home near Earl, August 1, aged 76.

Society Proceedings

COMING MEETINGS

Hawaiian Territorial Medical Society, Honolulu, November 19.
Medical Association of the Southwest, San Antonio, Tex., Nov. 9-11.
Ohio Valley Medical Association, Evansville, Ind., November 10-11.
Southern Medical Association, New Orleans, November 9-11.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Thirty-Fifth Annual Meeting, Held at St. Louis, Oct. 12-14, 1909

(Continued from page 1419)

Tuberculous Toxemia in Surgery

DR. ALEXANDER C. WIENER, Chicago: In this paper I present the following therapeutic conclusions: 1. Obstruction of the respiratory organs which curtail the intake of air are to be removed by the nose and throat surgeon. Too much stress cannot be laid on the removal of enlarged tonsils and adenoids by the skilled operator. Other anomalies, such as phimosis, should be remedied. 2. Mechanical treatment should be undertaken to correct all deformities of the skeleton, particularly the spine and chest. Children and adults who begin to develop round shoulders, with the subsequent hollows below and above the clavicles, need urgent treatment. It is harmful to advise the wearing of apparatus for support during the growing period. Braces should be discarded as therapeutic agents in the treatment of deformities of the spine due to rickets. Instead, the treatment should consist of: (a) Complete mobilization of all the intervertebral and vertebro-costal joints. (b) Correction of deformities of the vertebra and ribs. (c) Active and passive exercise of the respiratory muscles, including the diaphragm.

DISCUSSION

DR. F. M. POTTENGER, Monrovia, Cal.: The more we study the infection in tuberculosis the more we come to the conclusion that infection takes place in a great number of people early in life, and that most of us go through life with at least quiescent foci of tuberculosis within our bodies. These quiescent foci are not always negative and they do produce symptoms which have not been generally recognized. Toxemia in young neurasthenic school girls in my opinion is undoubtedly due to latent foci of tuberculosis and I have seen a number of such patients recover after treatment for tuberculosis.

Elements of Success in Surgical Work

DR. A. H. CORDIER, Kansas City, Mo.: 1. The field of surgery is a vast one and is best covered by the specialist in some of its departments, the eye and the ear especially. 2. Surgery and medicine should go hand in hand in the treatment of border-line cases, but should be divorced in the strictly surgical or strictly medical cases. 3. The selection of a surgeon for a given case should be from no other standpoint than that of his recognized ability. 4. A surgical operation should be performed as quickly as possible, consistent with good and completed technic. 5. All unnecessary and rough handling of important tissues and organs should be avoided. 6. Careful short anesthesia will help to keep the death-rate low. 7. Careful hemostasis with proper ligature material is an important element in successful surgery. 8. Thorough aseptic technic should be carried out and may be obtained either with or without rubber gloves and mask. 9. Lawn-tennis suits and gloves are only too often the avenues leading to wound infection. 10. Short postgraduate courses instill false surgical confidence and lead to many surgical disasters. 11. Honesty and sincerity should ever be the keynote in deciding as to the advisability of performing any surgical operation. 12. Mental tranquillity of the patient is of much importance preceding the performance of some surgical operations.

DISCUSSION

DR. H. HENRY CARSTENS, Detroit: No one has a right to practice surgery, and especially abdominal surgery, unless he has been an assistant for at least one year with some first-class surgeon, in a hospital where he has seen hundreds of operations and has witnessed the troubles, trials and complications that are encountered. Educated people know and find out who are the good surgeons. The general practitioner ought to know who is a good surgeon and ought not to trust everyone to perform operations which are attended with great danger to life.

DR. M. C. MCGANNON, Nashville: I am not willing to admit that surgical work of the pioneer was as good as that which is being done to-day. The enthusiasm of youth leads many a recent graduate to rush into the field of large surgery where he had better keep out until better trained. But how are we to stop that? It is the duty of this and other societies to adopt such measures as will prevent enthusiastic young men from rushing into a field of work that they cannot fill. Many of us have seen disasters following the surgical work of inexperienced men.

DR. CHANNING W. BARRETT, Chicago: Surgery has come to occupy a large place in the world, and it is our business as members of the medical profession to see that our surgical work is made just as successful as possible. The time has gone by when a man can plunge into surgical work and kill patients in order to learn how to do surgery. The opportunities for learning surgery now are too great and too cheap to permit of inexperienced men operating, and surgeons are only too willing to train those who wish to become surgeons.

Conditions Simulating Surgical Diseases

DR. M. C. MCGANNON, Nashville: It is not often that a surgeon is called on to reverse a diagnosis of chronic peritonitis in favor of spinal neurosis of traumatic origin, and yet such was my experience a few months ago. Cases of appendicitis have been on many occasions confounded with pleurisy and pneumonia. Many authors have called attention to the fact that pain associated with pneumonia and pleurisy, especially in children, may, if referred to the abdomen, and, if right-sided, occasion a diagnosis of appendicitis. Two such cases have been referred to me for operation, in which appendicitis was so closely simulated as to deceive good practitioners.

DISCUSSION

DR. EDWIN WALKER, Evansville: I am reminded of a case in which a man had locomotor ataxia, and the proposition was made to operate on him for gall-stones. The patient afterward fell into the hands of a surgeon who operated for gall-stones, but no stones were found. This man subsequently died of acute pneumonia and from an extension of the ataxia.

Dr. J. Henry Carstens, Detroit: Two years ago a woman was brought to me with large fibroid tumors. She had been vomiting for three weeks off and on and could not sleep. I ran my finger over the clavicle and over the tibiæ, gave her one-quarter of a grain of bichlorid of mercury hypodermically every day, and in four or five days she was able to sleep well, the vomiting ceased and the fibroids had nothing to do with those symptoms. I saw a man who was supposed to have had gall-stones. I looked at his tongue, saw a blue line along the edge of it, and said to him: "You are a painter, are you not?" And he replied, "Yes, sir." I told him he was not suffering from gall-stones, but from lead poisoning.

Dr. J. R. Eastman, Indianapolis: The general practitioner and internal medicine man ought to be educated along these lines. I went with two competent physicians in the summer in the country to examine a little girl whose case was diagnosticated as appendicitis. A mass had been described as present in the right groin. The little girl was 11 years of age, and these physicians considered it a clear case of appendicitis. While I sat at the bedside she took her handkerchief, expectorated profusely, and it proved to be tuberculosis.

Dr. Richard A. Barr, Nashville: I was called to the country a year ago to operate for appendicitis, the operation having been delayed for a number of days. On examination, I decided that this patient did not have appendicitis, but typhoid, and was able to persuade the attending physician that *I was correct, and no operation was done. I took some of* the patient's blood with me, had it examined; a Widal reaction was made, which proved to be negative.

Dr. William B. Burns, Memphis: I have seen some cases presenting symptoms of appendicitis which were as positive as we usually see them, but examination of the blood showed the presence of malarial parasites and hypodermic injections of quinin in four hours removed all the symptoms.

Various Operative Technics for Dislocated Kidney and Indications for Their Application

Dr. E. Harlan, Cincinnati, reviewed the work and opinions of various surgeons on dislocated kidney and said that operative cases of dislocated kidney may be summed up as follows:

1. Cases presenting periodical crises: (a) chronic recurent headaches and other nervous surcharges; (b) gastrointestinal; (c) renal; (d) hepatic; (e) appendiceal; (f) various bladder and pelvic symptoms.
2. Pathologic kidney: (a) albuminuria (postural); (b) hydronephrosis (recurrent).
3. Insanity (Suckling).
4. Persistent lumbar dragging or colonic backache which is unrelieved by medicinal treatment or by the use of an abdominal elastic.
5. Dependent pathology: (a) appendiceal irritation, congestion or inflammation; (b) stricture or partial occlusion of the bowel or bile tract; (c) adhesions, (e) ptosis or ulcer of the stomach.

He tabulated the operative steps and measures which have been employed in fixation of the kidney from the time of the first operation by Dowell, of Galveston, Texas, in 1874, to the present, including a description of the technic as used by the most prominent authorities in this work at the present time, with a discussion of the merits of the several methods and their application. He ascribed the operation of posterior nephropexy to Hahn and presented the evolution of its many modifications with the probable cause or suggestion which give rise to each. Lateral nephropexy he said belongs to M. L. Harris of Chicago. He described anterior nephropexy as first exploited by himself as well as the modification of the latter by Bishop, of Manchester, England. He also gave a summary of the methods of operating for dislocated kidney.

He predicted that in the near future all posterior operative procedures and all operations intended to "fix" the kidney would become obsolete, and only those methods applied which relieve and replace an obstructed ureter, eliminate the pocket and support the kidney at its lower pole while making sufficient correction of a disabled peritoneum to prevent either the upper or lower pole of the kidney from protruding into the peritoneum or bowel.

(To be continued)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Fifty-Ninth Annual Session, held in Philadelphia, Sept. 27-30, 1909

(Continued from page 1425)

SYMPOSIUM ON PULMONARY TUBERCULOSIS

The Early Diagnosis of Pulmonary Tuberculosis

Dr. Charles H. Miner, Wilkes-Barre, Pa.: Of 272 members of 157 families of tuberculous patients attending the state tuberculosis dispensary No. 1, in Wilkes-Barre, 180 or 66 per cent. were found to be tuberculous. Of those examined for signs of obstructed respiration, 50 cases of adenoids and enlarged tonsils were found, and 35 of these patients have been operated on at the dispensary. To diagnose tuberculosis in its real incipience we must look for it during infancy and childhood, localized in the lungs and bronchial glands. The time for making an early diagnosis in adults is when renewed activity first takes place or there has been a reinfection from without.

The Roentgen-Ray Diagnosis of Pulmonary Tuberculosis

Dr. Charles Lester Leonard, Philadelphia: This method of diagnosis is of distinct value in adding to and confirming the findings made by other methods of physical diagnosis and in obtaining mechanically a permanent record of the condition present. To obtain the necessary detail and to eliminate motion in the lungs, due to respiratory movements and the heart's pulsation, exposures of one-quarter of a second are essential. The method is valubale in the early stages of pulmonary tuberculosis in adding data by which the diagnosis is rendered certain. Localized empyemata can be differentiated from dilated and occluded bronchi and pyothorax and pneumothorax of slight extent can be found, while periodical thickenings and effusions, whether of tuberculous or other origin, are clearly seen. The relative height of the diaphragm is an unreliable index of the capacity of the lungs, since variations in the positions of the mediastinal viscera affect their relative capacity. This method has also shown that calcification of the sternocostal cartilages is a comparatively frequent accompaniment of pulmonary tuberculosis and may involve all the cartilages.

Tuberculosis of the Lungs Without Cough or Expectoration

Dr. Joseph P. Walsh, Philadelphia: The paper is a report of 13 new cases and 442 cases from the literature of tuberculosis of the lungs without cough or expectoration, and general statistics on the frequency of this occurrence. Since tuberculosis of the lungs can be readily diagnosed, according to German and American statistics in at least 5 per cent. of cases before cough and expectoration begin, it is important not only not to wait for the discovery of tubercle bacilli in the expectoration, but also not even for cough or the expectoration itself.

The General Practitioner and the Incipient Case of Pulmonary Tuberculosis

Dr. Arthur A. Watkins, St. Benedict: A distressingly large number of physicians either hesitate to make a diagnosis of an early case or are unable to recognize it. In rural districts the number of tuberculous patients receiving modern treatment is incredibly small. The average family physician does not make a diagnosis until the physical signs are well advanced (Trudeau). Thus in incipient cases the patients are neglected and inadvertently imposed on. It is probable that the average family physician has from 25 to 100 cases of pulmonary tuberculosis among his patients.

The Prognosis in Advanced Pulmonary Tuberculosis

Dr. William B. Stanton, Philadelphia: The majority of patients who apply for treatment to the general practitioner are in advanced stages. Believing that good results are obtained only in incipient cases, the treatment is not pursued with the optimism and enthusiasm that should characterize it. Large left-sided lesions often admit of a guardedly favorable prognosis, while large right-sided lesions do not.

Discussion on Pulmonary Tuberculosis

Dr. Edgar M. Green, Easton: I believe that the fault in diagnosticating tuberculosis lies not so much in the lack of ability as in the lack of thorough examination. One thing of considerable help in the diagnosis of early cases is the knowledge that at times the bacilli are present in the urine when there is no expectoration. In one case there was occasional rise of temperature and a careful examination showed a very small focus in the upper portion of the left lung. There was absolutely no cough and there was no other symptom. I believe these cases in which there is no cough are much more frequent than we think.

Dr. Arthur A. Watkins, St. Benedict: I do not agree with Dr. Green that the fault is due to negligence of the profession. In a recent tuberculosis exhibit in our town, of eleven patients with tuberculosis the physicians who were present would admit that only one had the disease, and in this one the condition was far advanced and a cavity was present.

SYMPOSIUM ON THE CIRCULATION

Importance of Considering the Arterial and Venous Systems in Cardiac Diseases

Dr. Hobart Amory Hare, Philadelphia: Changes in the blood-vessels can be roughly divided for clinical purposes into three great classes, namely, far advanced atheromatous change with calcareous deposits and associated destructive disease of the intima; fibroid change in which the most important lesion is an arteriocapillary fibrosis; vascular spasm whereby the elasticity of the vascular walls is impaired almost as much as when an actual organic lesion is present. While I am aware of the fact that the morbid anatomist may criticise this classification, I hold the opinion that the class of cases characterized by calcareous change with breaking down of the intima is quite a different type of disease from that characterized primarily by spasm and later by spasm and arteriocapillary fibrosis. It is exceedingly rare, in my experience, to meet with marked calcareous change or brittleness in the arterial system of the well-to-do or upper class, and comparatively rare to find high tension due to spasm and fibrosis in the working classes. Hard manual labor does not cause the same arterial changes that are caused by hard mental labor and nervous stress. This is all the more interesting because of the abuse alcohol and syphilitic infection, the two great causes of arterial disease, may be considered to exert an equal or nearly equal influence in both classes. The deduction from these facts, so far as treatment is concerned, is that when calcareous change is well developed little can be done for the relief of the patient; whereas, in the latter type, a good deal can be done, the degree of good depending, of course, on the severity of the lesions in each instance. The recognition of the underlying vascular state, altered by actual illness, is of the utmost importance in prognosis, and of even greater value from the standpoint of therapeutics. Nor is it safe to be content with the examination of one vessel in determining the general arterial state. Aside from the chronic and persistent manifestations the importance of studying vascular changes in acute illnesses is of overwhelming importance. How futile it is to stimulate a heart which is pumping against a high pressure in narrowed and tortuous vessels unless we simultaneously relieve it of some of its labor by reducing that pressure by the nitrites. To give digitalis under these circumstances, in the face of high tension, is equivalent to giving a horse an extra meal and then doubling his load.

Blood-Pressure Past Middle Life in Diagnosis, Prognosis and Treatment

Dr. Joseph H. Barach, Pittsburg: This paper is based on blood-pressure studies with the Erlanger sphygmomanometer, in a series of over seventy males, and includes observations and deductions as to the value of the study of the blood-pressure past middle life in diagnosis, prognosis and treatment. A chart of blood-pressure readings in normal individuals from the age of 10 to 90 years showed that with the advance of life the blood-pressure seems to rise steadily. At the age of 40 the blood-pressure was 115, at 60 it was 135 and at 80 it was 150. With these figures as a medium normal, 20 mm. above or below represents the limit of the normal range under any circumstances; figures beyond that were always associated with something pathological. In treatment the greatest effect comes with the regulating of the patient's mode of living. As accessory measures the various depressor drugs are to be used cautiously.

Analysis of Sixty-two Cases Exhibiting the Xiphisternal Crunching Sound

Dr. Myer Solis Cohen, Philadelphia: An analysis of 62 cases is presented showing this sound, which I described in 1903. While usually heard over the ensiform cartilage and the lower end of the gladiolus, the limits at which the sound was sometimes heard was the third rib, above the anterior axillary line and one and a half inches to the right of the sternum. The sound usually was increased when the patient leaned forward and diminished when he lay. In some cases it was loudest during inspiration; in others at the end of this act; in still others at the end of expiration. In many instances it was not affected by the breathing. The great majority of the cases were males, white, and between the ages of 20 and 70. All occupations were represented. In absence of autopsies, the nature of the sound is a matter merely of speculation. Apparently it has little significance. It is consequently important not to mistake the sound for a murmur or a pericardial friction.

Discussion on Circulatory Diseases

Dr. James M. Anders, Philadelphia: In these cases it is important to detect the degree of loss of elasticity of the arterial walls, the degree of sclerosis, and to carefully differentiate that for the sake of treatment from rise of blood-pressure. It is also important to estimate the loss of vasomotor tonus of the arterial walls. These arterial changes are commonly associated with cardiac affections, and it must be remembered that they may predominate in certain portions of the body. The indications for treatment must necessarily vary according to the particular changes. The great difficulty I find is that students and physicians are apt to overlook the fact that these changes are not necessarily disseminated throughout the body, but confined principally to certain portions of the economy. It is also important to detect the lack of elasticity in the veins and the degree of vasomotor tonus of the venous walls. As in the case of the arteries, so with the veins the impediment to the centripetal flow of the blood may be general, or it may be localized to certain portions of the body. The aspirating forces within the thorax must be carefully estimated in the given case. I refer especially to the inspiratory effort in breathing. I agree with Dr. Barach that a rise of blood-pressure is important for diagnosis and that it enables us to make a better prognosis. In arterial sclerosis affecting principally the smaller arteries a rise of blood-pressure is a most important early symptom.

Dr. Edgar M. Green: Dr. Hare spoke of the large element of nervousness in many of the cases of arteriosclerosis. I have been surprised to find that it might be said to be a temperamental condition. I have found that patients who do not relax are more subject to this disease than others. I have seen more patients with arteriosclerosis who did not have syphilis, or who were not alcoholics, than those with these conditions, and yet in almost all this certain neurotic condition was present in a marked degree.

Dr. H. A. Hare: We must recognize that the term sclerosis is rather objectionable to modern pathologists; it is not sufficiently definite. It is true that in a large number of cases there is sclerosis in the sense that there is thickening of the vessels, either because of fibroid change or calcareous deposit. It is also true that in a large number of cases it is not so much actual fibrosis or sclerosis or atheromatous change as it is spasm. It is important to recognize the degree of spasm because in direct proportion to its recognition can we employ therapeutic measures with success and in direct proportion to the degree of sclerosis or actual fibrosis or atheroma can we employ remedies with failure. If there is one important point which we have learned from our studies of pathology in recent years it is that there is a limit to therapeutic usefulness.

(To be continued)

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 9. Sec., Dr. F. T. Murphy, Brinkley.

CONNECTICUT: Homeopathic, New Haven, November 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.

CONNECTICUT: Regular, City Hall, New Haven, November 9-10. Sec., Dr. Charles A. Tuttle, 196 York St.

FLORIDA: Jacksonville, November 10-11. Sec., Dr. J. D. Fernandez.

LOUISIANA: Homeopathic, New Orleans, November 1. Sec., Dr. Gayle Aiken, 1102 St. Charles Ave.

MAINE: Portland, November 9-10. Sec., Dr. Frank W. Searle, 806 Congress St.

MASSACHUSETTS: State House, Boston, November 9-11. Sec., Dr. E. B. Harvey, Room 159, State House.

NEBRASKA: Senate Chamber, State House, Lincoln, November 10-11. Sec., Dr. E. Arthur Carr, 141 South Twelfth St.

NEVADA: Carson City, November 1. Sec., Dr. S. L. Lee.

TEXAS: Levy Bldg., Greenville, November 9-11. Sec., Dr. M. E. Daniel, Honey Grove.

WEST VIRGINIA: Chancellor Hotel, Parkersburg, November 9-11. Sec., Dr. H. A. Barbee, Point Pleasant.

Texas Reciprocity Report

Dr. M. E. Daniel, secretary of the Texas State Board of Medical Examiners, sends us a report of those licensed by that board through reciprocity since Jan. 1, 1909. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year. Grad.	Reciprocity with
University of Southern California	(1908)	Illinois
Chicago Homeopathic Medical College	(1898)	Illinois
Illinois Medical College..(1901) Indiana, (1903)	(1907)	Illinois
Chicago College of Medicine and Surgery	(1908)	Illinois
American College of Medicine and Surgery*	(1905)	Illinois
Northwestern University Med. School, (1904)	(2, 1908)	Illinois
College of Physicians and Surgeons, Chicago .....(1897) West Virginia; (1903) (2, 1902)	(1907)	Illinois
Rush Medical College......(1881) Minnesota;	(1906)	Illinois
Medical College of Indiana	(——)**	Illinois
University of Iowa, College of Medicine	(1902)	Iowa
Keokuk Medical College, College of Physicians and Surgeons........(1901) (1902) Illinois;	(1905)	Indiana
Physio-Medical College of Indiana	(1890)	Michigan
Kentucky School of Med...(1896) W. Virginia;	(1908)	Kentucky
University of Louisville..(1889) Kentucky; ....(1908)	(1893)	W. Virginia
Hosp. Coll. of Med., Louisville..(1897) Illinois;	(1904)	Kentucky
Baltimore Medical College..(1897) W. Virginia;	(1903)	Maryland
Johns Hopkins University	(1898)	Missouri
University of Maryland	(1906)	Maryland
College of Physicians and Surgeons, Baltimore ....(1893) Virginia;	(1901)	New Jersey
University of Michigan	(1903)	Indiana
University of Minnesota	(1899)	Minnesota
Barnes Medical College..(1898) (1904) (1905)	(1907)	Missouri
Homeopathic Med. College of Missouri..(1883)	(1907)	Missouri
University of Missouri	(1908)	Missouri
St. Louis College of Physicians and Surgeons	(1897)	Missouri
American Medical College, St. Louis	(1907)	Missouri
Kansas City Medical College	(1899)	Missouri
Eclectic Medical College of New York	(1900)	New Jersey
University of Nebraska	(1903)	Nebraska
Omaha Medical College	(1902)	Nebraska
Dartmouth Medical School	(1900)	New Hamp.
Eclectic Medical Institute, Cincinnati	(1906)	Ohio
Medical College of Ohio	(1885)	Nebraska
University of Pennsylvania.(1899) W. Virginia;	(1908)	Maryland
Jefferson Medical College	(1907)	Maryland
Meharry Medical College	(1890)	Illinois
University of Tennessee	(1901)	Missouri
University of the South	(1905)	Maine
Vanderbilt University	(1900)	Missouri
University of Virginia	(1899)	Dist. Colum.
Milwaukee Medical College	(1905)	Wisconsin
University of Palermo, Italy	(1886)	Illinois

* Name changed to Chicago College of Medicine and Surgery in 1907.

** Year of graduation not given.

Nebraska August Report

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, Aug. 10-11, 1909. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 7, of whom 6 passed and 1 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Northwestern Univ. Medical School..(1875) 75;	(1909)	92
University of Maryland	(1909)	87.1
Woman's Medical College of Pennsylvania	(1908)	84.7
Jefferson Medical College..........(1906) 79.5;	(1909)	80
FAILED		
Barnes Medical College	(1909)	68.1

Missouri May and June Reports

Dr. J. A. B. Adcock, secretary of the Missouri State Board of Health, reports the written examinations held at Kansas City, May 17-19, and at St. Louis, June 7-9, 1909. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75.

At the examination held at Kansas City, May 17-19, the total number of candidates examined was 78, of whom 51 passed and 27 failed. The following colleges were represented:

College	Year Grad.	Total No. Exam'd.
PASSED		
Northwestern University Medical School	(1903)	1
College of Physicians and Surgeons, Chicago	(1908)	1
Drake University	(1889)	1
University of Kansas..............(1908)	(6, 1909)	7
University of Michigan	(1907)	1
University of Missouri	(1909)	2
St. Louis University	(1906)	1
Ensworth Medical College	(1909)	6
Univ. Med. Coll., Kansas City....(2, 1908)	(17, 1909)	19
Barnes Medical College	(1909)	4
Washington University	(1908)	1
St. Louis College of Physicians and Surgeons	(1909)	3
Creighton Medical College	(1908)	1
Jefferson Medical College	(1908)	1
Vanderbilt University	(1909)	1
Meharry Medical College	(1909)	1
FAILED		
University of Kansas..............(1906)	(1908)	2
Maryland Medical College	(1902)	1
Detroit College of Medicine	(1908)	1
St. Louis College of P. & S.....(1901) (1908)	(1909)	3
University Med. Coll. Kansas City..(3, 1908)	(9, 1909)	12
Ensworth Medical College...........(1908)	(2, 1909)	3
Barnes Medical College	(1909)	1
Meharry Medical College.....(1907) (2, 1908)	(1909)	4

At the examination held at St. Louis, June 7-9, 1909, the total number of candidates examined was 144, of whom 111 passed and 33 failed. The following colleges were represented:

College	Year Grad.	Total No. Exam'd.
PASSED		
Georgia College of Electic Medicine and Surgery	(1904)	1
Rush Medical College..............(1874)	(2, 1908)	3
Tulane University of Louisiana	(1909)	1
St. Louis University........(1905) (1908)	(32, 1909)	34
Washington University, St. Louis....(1908)	(39, 1909)	40
University of Missouri	(1909)	1
Barnes Medical College..............(1908)	(1909)	20
St. Louis College of Physicians and Surgeons	(1909)	7
American Medical College	(1909)	2
Homeopathic Medical College of Missouri	(1909)	1
Missouri Medical College	(1890)	1
FAILED		
Howard University	(1907)	1
St. Louis College of Physicians and Surgeons.. ....(1906) (1907) (2, 1908)	(6, 1909)	10
Washington University ....(1908)	(2, 1909)	3
St. Louis University	(1908)	1
Barnes University ....(2, 1908)	(9, 1909)	11
Homeopathic Medical College of Missouri	(1909)	1
Lincoln Medical College	(1907)	1
Meharry Medical College ......(1904) (1908)	(1909)	3
University of Nashville	(1909)	1
Memphis Hospital Medical College	(1909)	1

New Hampshire July Report

Mr. H. C. Morrison, Regent of the New Hampshire State Board of Medical Examiners, reports the written examination held at Concord, July 2-3, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 30, of whom 19 passed and 11 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Medical School of Maine	(1909)	77.5
Baltimore Medical College..........(1906) 77.8;	(1908)	75
Harvard Medical School	(1908)	78
Tufts College Medical School (1902) 88.3; (1905) 81.9; (1909) 75, 82.1.		
Boston University ....(1899) 86;	(1904)	82
Dartmouth Medical College (1907) 75.6; (1908) 83.3; (1909) 78.8, 87.3, 80.9.		
University and Bellevue Hospital Medical College.	(1905)	87.6
University of the South	(1901)	77.8
University of Vermont	(1880)	83.4
McGill University, Canada	(1909)	85.8
FAILED		
Kentucky University	(1904)	50.6
Baltimore Medical College	(1908)	61.5
Maryland Medical College..........(1905) 68.9;	(1908)	63.9
[illegible]	(1906)	73
[illegible] lege........(1887) 59.3;	(1908)	73
[illegible] ....(1908) 66.4, 66.8;	(1909)	72.5
[illegible] France	(1906)	68.4

West Virginia Report

Dr. H. A. Barbee, secretary of the West Virginia State Board of Health, reports the written examination held at Charleston, July 13-15, 1909. The number of subjects examined in was 9; total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 68, of whom 60 passed and 8 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University	(1907)	88
Chicago College of Medicine and Surgery	(1909)	84
Louisville and Hospital Medical College	(1908)	81
University of Louisville (1907) 84; (1909) 81, 82, 82, 83, 83, 83, 85, 85, 85, 86, 88, 88, 90, 92.		
College of Physicians and Surgeons, Baltimore (1902) 90; (1907) 91; (1908) 91; (1909) 83, 84, 85, 85, 85, 87, 89, 91, 92.		
Maryland Medical College	(1905) 88; (1909)	81, 84
University of Maryland	(1909)	86, 87, 90
Baltimore Medical College	(1909)	87, 89, 92
Johns Hopkins University	(1908)	90
Starling-Ohio Medical College	(1909)	93
Eclectic Medical Institute, Cincinnati	(1909)	80, 82, 83
Jefferson Medical College	(1909)	87, 91, 93
Western Pennsylvania Medical College*	(1908)	83, 83
University of Pittsburg	(1909)	87, 89
Medico-Chirurgical College, Philadelphia	(1909)	81, 85
Tennessee Medical College	(1909)	81
University College of Medicine, Richmond	(1909)	90
University of Virginia	(1909)	86, 94
Medical College of Virginia, Richmond	(1909)	88, 89, 90

FAILED

College	Year Grad.	Per Cent.
University of Louisville	(1908) 74; (1909)	74, 74
Louisville and Hospital Medical College	(1908)	76
Maryland Medical College	(1909)	76
Eclectic Medic [illegible] i	(1909)	76
Chattanooga [illegible]	(1909)	73, 73

* Now the [illegible] Medical Department.

South Dakota July Report

Dr. H. E. McNutt, secretary of the South Dakota State Board of Medical Examiners, reports the written examination held at Watertown, July 14-15, 1909. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 49, of whom 34 passed and 15 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Exam'd.
Columbian University, Washington, D. C.	(1904)	1
Rush Medical College	(1906) (1908) (1909)	3
Chicago College of Medicine and Surgery	(1909)	2
Northwestern University Medical School	(1903) (1907) (1908) (1909)	4
College of Physicians and Surgeons, Chicago	(1900) (1902) (1904) (1905) (1909)	5
University of Iowa	(1898) (1903) (5, 1909)	7
Sioux City College of Medicine	(1909)	1
Keokuk Medical College	(1900)	1
Tulane University of Louisiana	(1887)	1
University of Michigan	(1900)	1
University of Minnesota	(1905) (1907) (2, 1909)	4
Creighton Medical College	(1908)	1
University of Pennsylvania	(1906)	1
McGill University, Montreal	(1903)	1
University of Toronto, Ontario	(1907)	1

FAILED

College	Year Grad.	Total No. Exam'd.
Rush Medical College	(1897)	1
Northwestern University Medical School	(1907)	1
Hahnemann Medical Coll. and Hosp., Chicago	(1901)	1
College of P. & S., Chicago	(1908)	1*
University of Iowa	(1908)	1
Sioux City College of Medicine	(1906) (1909)	2
Keokuk Med. Coll. of P. & S.	(1908)* (1908)	2
[illegible] St. Louis	(1909)	1
[illegible]	(1905)** (1908)	2
[illegible] sicians and Surgeons	(1906)	1*
[illegible] nd Hosp., Philadelphia	(1907)	1
[illegible] ada	(1903)	1

[illegible] in 1909.

Georgia August Report

Dr. E. R. Anthony, secretary of the Regular Board of Medical Examiners of Georgia, reports the written examination held at Atlanta, August 3-4, 1909. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 80. The total number of candidates examined was 22, of whom 19 passed and 3 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Atlanta School of Medicine	(1909)	80, 86
Atlanta College of Physicians and Surgeons	(1909)	90
University of Maryland	(1908) 83; (1909)	84, 84
Columbia University, College of P. & S.	(1909)	95
Leonard School of Medicine (1906) 82; (1908) 80;	(1909)	82, 88
Jefferson Medical College	(1909)	83
Meharry Medical College	(1908) 80; (1909)	80, 80, 81
Vanderbilt University	(1909)	90
Chattanooga Medical College	(1909)	83
Memphis Hospital Medical College	(1906)	80

FAILED

College	Year Grad.	Per Cent.
Meharry Medical College	(1895) 77; (1908)	78
University of West Tennessee	(1909)	78

California August Report

Dr. Charles L. Tisdale, secretary of the Board of Medical Examiners, reports the written examination held at San Francisco, August 3-6, 1909. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 139, of whom 80 passed and 42 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Cooper Medical College (1908) 75; (1909) 75.8, 76.4, 76.9, 77.4, 79.2, 79.3, 79.5, 80.1, 81.2, 84.3, 84.4, 84.8, 85.1, 85.2, 85.8, 87.2, 89.1.		
University of Southern California (1905) 75.3; (1908) 80, 80.5, 86.5; (1909) 78.4, 79.6, 81.3, 81.4, 81.5, 83.2, 83.6, 85.5.		
University of California	(1909)	79.7, 83.2, 83.4, 84, 86.3
Oakland Coll. of Med. and Surgery	(1909)	80.2, 82, 87.6
College of Physicians and Surgeons, San Francisco (1904) 76.5; (1907) 83.6; (1908) 78.2; (1909) 75.7, 83.2.		
Hahnemann Medical College of the Pacific (1908) 77, 77.7; (1909) 76.3, 81.		
College of Physicians and Surgeons, Los Angeles	(1908)	77.2
University of Colorado	(1908)	81.3
Denver and Gross College of Medicine	(1908) 84; (1909)	79.7
Rush Medical College	(1906) 83.5; (1909)	86.6
Northwestern University Medical School (1900) 83.8; (1908) 85.6; (1909) 83.		
Harvey Medical School	(1904)	75.4
Coll. of P. & S., Chicago	(1898) 81.7; (1908)	82.2
University of Iowa, College of Medicine	(1901)	83.1
American Medical Missionary College	(1902)	78.7
Johns Hopkins University	(1907)	81.5
Baltimore Medical College	(1907)	77.5
Harvard Medical School	(1894) 83.1; (1908)	82.5
Washington University, St. Louis	(1901)	82.1
University Medical College, Kansas City	(1909)	77
Barnes Medical College	(1909)	77
Creighton Medical College	(1904)	79.8
Dartmouth Medical School	(1899)	88
Cornell University Medical College	(1906)	83.1
University of Buffalo	(1896)	80.9
University of Pennsylvania (1902) 82.4; (1907) 85.6; (1908) 79.1.		
Jefferson Medical College	(1901) 75.7; (1909)	81.3
McGill University, Montreal, Quebec	(1905) 84.9; (1908)	75.9
University of Bonn, Prussia, Germany	(1909)	80.3

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, San Francisco (1902) 58.1, 73; (1906) 63.8, 72.8; (1907) 62.5, 69.2.		
Hahnemann Medical College of the Pacific (1908) 70.9, 71.8; (1909) 56.5, 62.8, 72.2.		
California Eclectic Medical College	(1909)	72.3
Cooper Medical College	(1903) 68.1; (1908)	69.2
University of Southern California (1905) 60.6, 72.8; (1909) 70.8, 73.6.		
Medical College of Georgia	(1883)	65.4
Rush Medical College	(1885) 64.5; (1889)	*77.3
Northwestern University Medical School	(1898)	*76.4
College of Physicians and Surgeons, Chicago	(1909)	71.8
Hahnemann Medical Coll. and Hospital, Chicago	(1890)	60.5
University of Iowa, Coll. of Medicine	(1885) 82.1;* (1890)	68.8
Tufts College Medical School	(1907)	61.5
Harvard Medical School	(1898)	70.7
University of Maryland	(1903)	69.6
University of Michigan, Coll. of Med.	(1891) 63.1; (1908)	72.7
University of Minnesota	(1908)	68.3
New York Homeopathic Med. Coll. and Hospital	(1905)	53
Jefferson Medical College	(1893) 67.9; (1895)	49.8, 72.4
Hahnemann Medical Coll. and Hosp., Philadelphia	(1909)	67.5
Medico-Chirurgical College, Philadelphia	(1901)	71.1
Vanderbilt University	(1909)	69
University of Vermont	(1908)	71.3
Trinity College, Dublin, Ireland	(1863)	*91.2
Tokyo Medical College, Japan	(1907)	56.3

* Five per cent. allowed for each ten years of practice.

National Conservation of Health as an Economic Measure.—Professor Irving Fisher, president of the American Health League, arguing for a national department of health, says in the New York *Christian Advocate:* The present interest in school hygiene augurs well for the future interest in and realization of public health. Perhaps an even greater good omen is found in the growing willingness of commercial establishments to conserve the vital machinery entrusted to their care as well as they conserve the machinery of iron and steel. A railway which works its engineers and signal men beyond the fatigue point reaps its just reward in its losses from collision. Incidentally the public loses life and limb. When insurance companies shall have introduced sanatoria, disseminated educational leaflets, and otherwise tried to promote public health from financial motives, we shall, from a practical point of view, have taken the greatest step forward yet achieved.

Medicolegal

Life Tables Cannot Be Used in Estimating Future Suffering—Largest Verdict

The Supreme Court of Iowa says, in the personal injury case of Canfield vs. C. R. I. & P. Railway Co. (121 N. W. R. 186), that counsel stated that plaintiff's expectancy of life was nearly 43 years, and based their argument in support of the verdict rendered in his favor for $49,000 on that proposition. As to the pecuniary injury to his estate by his injury, that was doubtless permissible, but in estimating his future suffering and the expenses he would be to, and all other matters which had to do with prospective damages, it was perfectly manifest that life tables could not be accepted as a basis. The statistics from which these were compiled were not based on the experience of men crippled as the plaintiff was, but on men in health, or, at least, on men who were not injured as the plaintiff was, and they afforded no criterion whatever as to his expectancy of life. If he was injured as badly as his surgeons said he was; was suffering as they claimed; was as nervous as they would have the court believe; had the exposed bone and running sores on his leg; and the liability to infection as they described, he was not likely to live many years. Indeed, his time, if he was injured as claimed, must of necessity be short. Of course, an operation might prolong his life, but if so, he would be relieved of his bodily suffering, although not his mental, due to his deformed condition. The court wishes to point out this fundamental fallacy underlying the argument made by counsel.

Going to the verdict of $49,000, the court says that this was undoubtedly one of the largest ever returned in a personal injury case. Indeed, it is the largest one of which the court has any knowledge, considering the position in life and earning powers of the party injured, who was an unskilled section hand 18 years of age, with an income of $435 a year, when injured. In the accident in which he was injured he was thrown something like 25 feet by a train, and struck on his head. His right knee was mashed, and the bone broken just above the knee. His left hip was broken, and left leg about the middle. His right arm was broken in three places, and the right shoulder hurt. His nose was cut, and there were cuts over the eye, over the eyebrow, and on the chin, and his scalp was torn off. He was entitled to compensation for present, past, and future pain and suffering, and to an amount sufficient to meet his past, present and future expenses caused by the injury. But, as already stated, he was not entitled to compensation for these on the theory that he would live to his full expectancy. This theory was plausibly argued before the court, but such an argument is without foundation, in that it proceeds on an entirely wrong basis. Again, in justification of the verdict, the members of the court of jury were asked to say what amount would induce them to voluntarily put themselves in a position to receive such injuries. Of course, the answer would be: No sum could be named which would be sufficient. This was another fallacy, but one which undoubtedly appealed to the trial jury. Twenty-five thousand dollars is the largest amount that the court would not deem an excessive award in this case.

Summary Power Necessary for Health Officers

The Supreme Court of Wisconsin, in State ex rel. Nowotny vs. City of Milwaukee (121 N. W. R. 658), says that a health officer who is expected to accomplish results must possess large powers and be endowed with the right to take summary action, which at times must trench closely on despotic rule. The public health cannot wait on the slow processes of a legislative body, or the leisurely deliberation of a court. Executive boards or officers, who can deal at once with the emergency under general principles laid down by the lawmaking body, must exist if the public health is to be preserved in cities.

There is nothing of greater importance relating to the food supply of a great city than that the milk sold should be pure and wholesome, and the common council of Milwaukee, realizing this fact, and realizing also that it was imperative that action should be quick and decisive if it is to be efficient, passed ordinances requiring, under penalties, that all milk sold must be unadulterated, must meet certain standards, and be obtained from healthy cows fed on wholesome feed, and further requiring that every milk vendor must obtain a license from the health commissioner, "which license may at any time be revoked by the commissioner of health for violation of the provisions hereof, or for any good or sufficient cause." The court is convinced that the council had power to pass the ordinance and vest the power of issuing and revoking licenses in the health commissioner by virtue of the power to "tax, regulate, and restrain" the "vendors of milk," and to "regulate and restrain the sale of milk," given to it by the city charter.

The requiring of licenses and the reserving of the power to revoke such licenses, in case of misconduct or violation of law, is well recognized as one of the most effective means of regulating and restraining a business that has yet been discovered, but the power of revocation would amount to little if it could not be vested in an executive officer or board with power to act quickly. The sale of infected milk for a single hour might produce an epidemic of typhoid fever which would sweep hundreds to the grave. The importance of reserving in some executive official the power to revoke can hardly be overestimated. Prosecutions to recover fines and penalties may drag their weary lengths along for weeks and months, and even then prove ineffective; but the revocation of the license remedies the evil and avoids the danger of the spreading of disease at once. It is regulation in the most effective sense. The court has no hesitation in holding that, when the city was given the power to license, restrain, and regulate the sale of milk, it also took power to revoke licenses, and that it might vest such power in the health commissioner, with the right to exercise the same summarily and even without notice.

Denial of Physical Examination on Affidavit of Attending Physician

The Supreme Court of Michigan says that the plaintiff in the personal injury case of Logan vs. Agricultural Society of Lenawee County (121 N. W. R. 485) claimed an injury to her spine and sexual organs. A notice was given to take her deposition at her home, on the ground that she was unable to attend the trial. After that notice was served, the defendant filed a petition asking an order that two physicians named be permitted to examine the plaintiff. In reply her physician certified that she was confined to bed as a result of the injury, that she was weak and extremely nervous, and that in his judgment the physical examination prayed for in the petition would be disastrous, and would have a tendency to greatly increase her nervous disorder and prevent her recovery. The trial court filed an opinion denying the application on the strength of the affidavit of her physician. The Supreme Court does not think that in this case the trial court abused its discretion, especially in view of the fact that a physician on behalf of the defendant was present when the plaintiff's deposition was taken, and testified on the trial, and that the defendant's other physician had examined the plaintiff at the time of her injury. All of the circumstances connected with the refusal were in evidence, and the trial court on this point instructed the jury that if they found that the defendant's physicians "were not given a fair and reasonable opportunity, both or one of them, to examine or see the plaintiff, and to make a modest and reasonable investigation for the purpose—and in good faith—of making an examination for the purpose of ascertaining her condition of health and the character and extent of her injuries, if any, then you should take this as against the plaintiff, and have the right to infer that such investigation would not be favorable to her claim in this case. Furthermore, you should consider carefully all the testimony in the case on that subject, and say whether she has refused at all times or not, and whether those refusals have been reasonable or not. And if not, you have a right to consider it as a circumstance against her to that extent; but if her reasons seem to be good and adequate in your judgment for doing as she has done under the circumstances, then, of course, it would not be considered by you as of any force or effect against her. You may consider all the evidence on that subject in determining what the real situation is." The Supreme Court sees no reason to disturb the ruling of the trial court.

Current Medical Literature

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

October 16

1 *Construction of an Efficient and Economic Diet in Tuberculosis. H. M. King, Liberty, N. Y.
2 Early Diagnosis of Malignant Disease of the Larynx. W. F. Chappell, New York.
3 *Precocious Tertiary Syphilis; Case with Manifold Manifestations. H. F. L. Ziegel, New York.
4 *The Care of the Nursing Breasts—Their Development During Neurasthenic Puberty. G. E. Abbott, Pasadena, Cal.
5 Great Improvement in Advanced Cases of Pulmonary Tuberculosis Under Sanatorium Care. H. Greeley, Brooklyn.
6 Mastoiditis, Complicated by Purulent Leptomeningitis, Epidural Abscess, and Sinus Thrombosis. A. Braun, New York.

1. **Diet in Tuberculosis.**—According to King, the following standards are applicable to ambulant cases of comparatively quiescent tuberculosis under sanatorium treatment:

> 1. For young adult men of the working class on very light exercise from 2800 to 3200 calories, of which from 110 grams to 125 grams shall be protein.
> 2. For the same class on 5 or 6 hours vigorous exercise (sawing or chopping wood, working with shovels, pickaxes, barrows, etc.), from 3100 to 3600 calories, of which 125 grams to 140 grams shall be protein.
> 3. For women of this class 200 calories and approximately 10 grams protein may be deducted in each case.
> 4. Four young adult men, whose occupation has been more sedentary—*e. g.* clerks, bookkeepers, tailors, students, etc., on moderate exercise (walking from one to three hours daily), 2600 to 3000 calories, of which not over 115 grams need be protein.
> 5. For women of this class not to exceed 2500 calories and 100 grams protein.
> 6. For older patients, a slight reduction in calorific value and a considerably lower protein constituent are desirable in each case.
> 7. For the country dweller a somewhat larger bulk without increase in protein value is usually desirable, all other conditions being similar, than is the case with the patient from the city.

Diets constructed on these standards in two divisions of the Loomis Sanatorium during the past year have proved more satisfactory than any which have been previously employed. During the autumn and winter of 1905 and 1906 the standard was protein, 166 grams; fat, 214 grams; carbohydrates, 323 grams; calories, 3955. Patients seemed to do very well on this diet. Weight gains were satisfactory, but digestive disturbances were not uncommon.

3. **Precocious Tertiary Syphilis.**—A patient with syphilis which had not been systematically treated, fifteen months after infection began to exhibit tertiary manifestations which appeared in the following order: (1) Ulcer of the right leg; (2) papular syphilide of the scalp;; (3) deep ulcerations of tonsils and posterior pharyngeal wall; (4) stricture of the left nasal duct; (5) ulcers on forehead; (6) periostitis of nasal bones; (7) gumma of nasal septum, suppuration and perforation; (8) bursitis and synovitis; (9) periostitis of heads of tibiæ; (10) gummata of right testicle; (11) synarthrosis. The two noteworthy features of this case are the early appearance of the tertiary manifestations and their superficiality.

4. **Care of Nursing Breasts.**—Abbott shows how the breast is prevented from attaining normal development and thus secreting the normal amount of milk by the pressure of the ribs against the branches of the mammary artery as it passes out between the ribs. If the breasts are supported the circulation is normal and much more milk will be secreted. By lying on the nursing side while nursing the infant, the greatest amount of blood passes to the breast during lactation, and both the breasts should be nursed at each feeding, instead of alternately. Thus the breasts never hang flabby and will be firmer and of better shape, he asserts, after nursing is over.

New York Medical Journal

October 16

7 *Epilepsy in Its Relation to Menstrual Periods. A. Gordon, Philadelphia.
8 *Treatment of Acute Pneumonia in Infancy and Childhood. W. L. Carr, New York.
9 Prevalence of Venereal Disease Among Recently Arrived Immigrants. A. L. Wolbarst, New York.
10 Conditions Which Interfere with the [illegible] Nasal Chambers in Children. R. B. [illegible]
11 Criminal Simulation. F. A. McGuire a[illegible] York.
12 The Personal Side in the Treatment of Tuberculosis. H. D. King, New Orleans.
13 Infancy of the Practice of Medicine and Surgery. H. Pomeranz, New York.
14 Cases of Intestinal Obstruction. L. G. Hanley, Buffalo, N. Y.

7. **Epilepsy in Relation to Menstruation.**—A study of twenty-three cases has convinced Gordon of the undeniable relation of epileptic seizures to menstruation; absolute freedom from attacks in the intervals between menstrual periods; apparently perfect integrity of the ovaries and still occurrence of epileptic fits immediately before or during menstruation; inability to control the fits with the usual bromid treatment; good, and even excellent effect of thyroid extract. The thyroid extract was given between the menstrual periods and bromids without thyroid only a few days before menstruation.

8. **Lobar Pneumonia in Children.**—Carr claims that inasmuch as lobar pneumonia is a self-limited disease of short duration, it seldom demands more than nursing and care. Medicinal treatment is needed when symptoms indicative of weakness or complications arise, and to relieve pain or restlessness. Bronchopneumonia in its acute manifestation may require no more treatment than is mentioned for lobar pneumonia, but as it is a disease that is usually, even in acute cases, associated with depressed vitality or infection, stimulation by alcohol and other agents will be required. In all cases of bronchopneumonia careful nursing and attention to diet will save many lives and lessen the extent and severity of the disease.

Boston Medical and Surgical Journal

October 14

15 *Postoperative Acute Dilation of the Stomach. H. B. Smith, Boston.
16 Neoplasms of the Penis, Scrotum, Testicle and Cord. O. C. Smith, Hartford, Conn.
17 New Growths of the Prostate and Bladder. R. H. Greene, New York.
18 *Neoplasms of the Kidney and Ureter. J. B. Squier, New York.
19 Cystoscopy in New Growths of the Urinary System. L. Davis, Boston.

15. Abstracted in THE JOURNAL, July 17, 1909, p. 226.

18. **Neoplasms of the Kidney and Ureter.**—At St. Luke's Hospital, New York, for the past twelve years, there were, among 33,700 admissions, 325 cases of kidney disease (excluding nephritis), of which 24 were tumors, or 0.07 per cent. These 24 cases form the basis of Squier's article. In 13 of the tumor cases histologic diagnoses were made or confirmed. In 3 cases of cystic kidney and 1 of secondary carcinoma, the operative or bedside diagnosis could not be questioned. The other 7 are grouped as "tumors," irrespective of the clinical diagnosis. Pain was the first symptom in 7 patients; hematuria in 4, weakness in 5; tumor in 2; vomiting in 1, and pain and hematuria in 2. Thirteen patients died with recurrence: 10 at periods of one to twelve years; 1 patient had recurrence, but was living when reported; 1 died without recurrence five years after operation; 4 are living without recurrence (2 carcinomata, 2 hypernephromata). One reason of the high operative mortality is the rarity of early diagnosis. The tumor does not become palpable until it is very large. Radical removal at present offers the only chance for cure, the size of the tumor indicating the route for removal. The transperitoneal route permits better exploration of the opposite kidney and a more complete extirpation of the lymph nodes and other surrounding structures which may be involved in the growth.

Lancet-Clinic, Cincinnati

October 9

20 History of Human Anatomy. W. E. Lewis, Cincinnati.
21 Defective Children. L. M. Doll, Cincinnati.

Medical Fortnightly, St. Louis

September 25

22 Early Diagnosis and Surgical Treatment of Cancer of the Stomach. C. R. Dudley, Hannibal, Mo.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

October

23 Postope[illegible] Laparotomy Wounds (Postoperative [illegible] E. Ries, Chicago.
24 *Cervica[illegible] F. Lewis, Chicago.
25 Vaginal [illegible] M. Sprigg, Washington, D. C.
26 Use of Morphin and Scopolamin in Labor. J. Halpenny and C. H. Vro[illegible]
27 Pancreatitis. [illegible]
28 Postpartum [illegible]
29 *Epithelioma [illegible] nsas City.
30 The Toxemia [illegible] Washington, D. C.
[illegible] Houlton, Me.
31 Acute Inflammation of the Nasopharynx in Infants and Young Children. O. M. Schloss, New York.

24. **Cervical Cesarean Section.**—Cervical Cesarean section, according to Lewis, is a more difficult and longer operation than the older form; it requires deep dissection into extensive connective tissue spaces and admittedly in the probable presence of infection, it often involves considerable difficulty in extraction of the child and leaves the uterus in an abnormally fixed position. For clean cases, he says, it cannot replace the ordinary method; for cases of possible previous infection it offers no better chances than the classical operation with careful damming of the peritoneal cavity against the contents of the uterus and tight suturing of the uterine walls, while for cases of certain infection it cannot, he declares, replace craniotomy.

29. **Epithelioma of Vulva.**—Balloch reports two cases which show that irritating discharges from the uterus or vagina should not be neglected. *Any chronic irritation is liable to cause cancer.* Pruritus vulvæ calls for a careful search for its cause and its removal when found. The irritation incident to this disease may cause cancer of the vulva. The earlier the operation the better the chance of cure, and the more thorough the operation, the better the prognosis as to complete eradication of the disease. Even if the disease involves only one side, the glands on both sides should be removed and an effort made to determine the condition of the pelvic glands. Any involvement of the meatus urinarius or the urethra calls for careful examination of the urethra, supplemented by a cystoscopic examination.

Journal Indiana State Medical Association, Fort Wayne

September

32 The Physician as a Factor for Good or Evil. A. F. Knoefel, Linton.
33 Appendicitis. J. C. Fleming, Elkhart.
34 The Rôle the Gonococcus Plays in Childless Marriages. C. E. Barnett, Fort Wayne.
35 Medical History of Indiana (continued). G. W. H. Kemper, Muncie.

Annals of Surgery, Philadelphia

October

36 *Analytic and Statistic Review of 1,000 Cases of Head Injury [illegible] ps, New York.
37 [illegible] A. B. Johnson, New York.
38 *[illegible] ancreatitis. C. N. Smith, Toledo, O.
39 [illegible] in Operations for Appendicitis. C. [illegible]
40 An Irrigating Sound of the Standard and Beniqué Type. V. C. Pedersen, New York.
41 Intravenous Local Anesthesia. J. M. Hitzrot, New York.
42 Modification of the Crile Transfusion Cannula. B. M. Bernheim, Baltimore.
43 *The Open-Seat Pelvic Binder. S. E. Newman, St. Louis.
44 *Silver Foil in Surgery. J. S. Lewis, New York.

36. **Head Injury.**—The analysis of 1000 cases of head injury observed by Phelps under similar conditions, could hardly fail to disclose some new facts in pathology and symptomatology, and to accentuate some others which were perhaps already known. The independence of the symptoms of cranial fracture and of intracranial lesions, the intervention of the sympathetic system in the production of symptoms of intracranial injury, and the relations of temperature to consciousness and in general to prognosis and diagnosis, are some of the more important of its disclosures; but the one fact of paramount importance which it demonstrates is that the essential lesion is the same in every class of intracranial injuries, and that it is a structural change in the cellular elements; that lacerations and hemorrhages are accidental, and not essential; that whatever influence these lesions may have in determining the more intimate pathologic condition they are but a part of a general contusion which may equally occur in their absence. This is the conclusion arrived at by Phelps, from the examination of every symptom in detail, focal as well as general, since in each instance many cases were found with no other gross lesion than a more or less well-pronounced circulatory derangement or even with no evident change at all.

38. **Surgical Conception of Pancreatitis.**—According to Smith, pancreatitis is of far more frequent occurrence than has been believed in the past. It is a disease progressive in its nature and tending to a fatal termination. With present methods it can be diagnosed without difficulty. It is, in the great majority of instances, secondary to and dependent on cholelithiasis or infection of the biliary tracts. It can be cured, or its progress stayed, by the early removal of its causes and the prevention of their recurrence. Its presence having been demonstrated, the immediate removal of its cause is imperative. Sodium phosphate, olive oil, neglect, delay, and optimistic indifference in the treatment of gallstones must give way to prompt, radical and efficient surgery.

43. **The Open-Seat Pelvic Binder.**—Newman describes pictorially a practical bandage for operations on the scrotum and testes and ilioinguinal region, which is said to possess the following advantages: The patient is not lifted; turning on the side is all that is required in applying the bandage. It is held in place by the spines of the iliac bones and does not tend to slip. The scrotum is not merely supported between the thighs but rests on the pubes. Urination is not interfered with; easy access to the rectum; defecation does not necessitate a change of the bandage. The bandage does not become *stringy and see-saw the skin of the entire region.* Inspection of the wound is easy and requires little more than the removal of a few safety-pins. After dressing the wound the same bandage may be reapplied; if the binder is soiled, it is laundered and re-used.

44. **Silver Foil in Surgery.**—Lewis says that on clean skin grafts the silver foil dressing is at its best and has replaced the older methods of wet dressings and gutta-percha, or the dry gauze dressings which present mechanical drawbacks. Under the foil the grafted skin remains fairly dry, as is the condition of normal skin. In plastic surgery, where cosmetic results are desirable, the slight secretion along the linear wounds passes through the crevices in the foil to be absorbed by the superimposed gauze, minimizing scab formation. In the usual clean wounds the possibility of infection from without is made more remote, especially in the groin, where the dressing may become wet with urine or slip and so expose the wound. In clean wounds, near a discharging wound, as in some secondary operations, the clean one may be protected against the other until union is established. The foil may be recommended on theoretical grounds to prevent subdural adhesions. In clean, rapidly granulating open wounds, the foil protects the delicate advancing margin of epithelium. Chronic ulcers, such as the varicose type, are not benefited. In the acute or painful stage of burns it is useless.

Journal of the Kansas Medical Society, Kansas City

September

45 Sporotrichal Infection. W. K. Trimble, Rosedale, and F. W. Shaw, Kansas City.
46 The Diagnostic Significance of Variations in the Hydrochloric Acidity of the Gastric Contents. F. A. Carmichael, Goodland.
47 Intussusception. A. Moberg, Kansas City.
48 Early Diagnosis of Pulmonary Tuberculosis. C. S. Kenney, Norcatur, Kan.

Texas State Journal of Medicine, Fort Worth

October

49 Compulsory Notifications in Tuberculosis: The Necessity and Feasibility. T. Y. Hull, San Antonio.
50 Tumors, Especially Fibroid Tumors. C. H. Harris, Fort Worth.
51 Case of Fibroma Molluscum. F. S. Littlejohn, Marshall.
52 Pathology of an Appendix and Ovary Removed 4 Hours After an Accident. M. A. Wood, Galveston.
53 Hernia, with Special Reference to its Traumatic Origin. B. Saunders, Fort Worth.
54 *Modified Halsted and Bassini Operation for Inguinal Hernia. W. A. Duringer, Fort Worth.
55 Cocain Anesthesia in 109 Cases of Hernia. W. W. Samuell, Dallas.
56 *The Angiotribe Method of Treating Hemorrhoids. S. P. Delaup, New Orleans, La.
57 Germicidal Effects of Biniodid of Mercury and Violet Rays. E. F. Cooke, Houston.
58 Development and Anatomy of the Lower End of the Rectum. J. E. Thompson, Galveston.
59 The One Universally Applicable Diagnostic Test for Tuberculosis and the Three Fundamental Factors of Treatment. B. Cornick, San Angelo.
60 Useful Anatomy in Surgery of the Pylorus. O. L. Norsworthy, Houston.
61 Tonsillectomy, A Hospital Operation. H. B. Decherd, Dallas.
62 Serious Troubles the Appendix May Cause. C. E. Cantrell and W. Cantrell, Greenville.

54. **Operation for Inguinal Hernia.**—The method devised by Duringer is really a modified Halsted and Bassini operation. The skin and superficial fascia are divided over the line of the inguinal canal. The external oblique aponeurosis is retracted and divided about one and one-half inches above and parallel with Poupart's ligament. The external oblique aponeurosis is dissected backward and upward. The lower segment is

dissected downward to expose the internal abdominal ring and the inguinal canal. The sac is liberated from the cord and opened. Excessive omentum is ligated and removed, and the stump and knuckle of bowel are returned into the abdominal cavity. The neck of the sac is liberated at the internal abdominal ring and ligated. The head of the threaded needle, with the same catgut, is passed through the upper angle of the wound, through the internal oblique and transversalis fascia and the stump of the sac drawn above the internal ring and anchored, making a so-called "bumper." This has the advantage of bringing healthy peritoneum in contact with the internal abdominal ring, giving it, necessarily, more strength. The cord is treated as the case demands. Duringer is not in the habit of removing veins.

In closing the abdominal anatomic layers, first, the cord is elevated by a gauze strip passed beneath it, and it is held out of the way. The curved fibers of the internal oblique and transversalis are stitched to the lower segment of the external oblique aponeurosis under the elevated cord. To prevent constriction and strangulation, Duringer seldom resorts to the outer stitch above and below the cord. Second, the superior segment of the external oblique aponeurosis is brought down over the cord, and over the line of union of the lower segment of the external oblique aponeurosis with the external oblique and transversalis, as low as possible, and attached by a mattress suture like the Mayo method of overlapping the aponeurosis for ventral hernia. Duringer then closes the superficial wound by a subcuticular catgut stitch. The advantage of this operation is said to be the maintenance of the exact anatomic relations of the abdominal wall.

56. **Angiotribe Method of Treating Hemorrhoids.**—The patient, having been previously prepared and the spinal injection made, is placed in Sims' position. The sphincter is gradually and thoroughly divulsed by making pressure with the thumb or fingers first in one direction and then in another, or with the Cook's speculum. The hemorrhoids are then exposed by everting the anus, and their number, size and location noted. The next step is also common to all methods, determining how many of the hemorrhoidal masses and what ones should be removed. This is best effected by firmly grasping each tumor with hemorrhoidal forceps and making traction so as to put the parts at its base well on the stretch. The angiotribe—Thuminn—is now adjusted; it will not only enclose the whole of the pile, but will reach up to the normal mucous membrane above, so that the vascular supply is wholly controlled. The portion of the pile that protrudes beyond the angiotribe is now cut off flush with the angiotribe by knife or scissors, just as in the cautery operation. The angiotribe is allowed to remain for 4 or 5 minutes, according to the size and condition of the pile. Pending the compression, the excised tumor, flush with the angiotribe, may be touched with a pledget of cotton saturated with pure carbolic acid. The angiotribe is then removed and reapplied as often as necessary; the most aggravated case never requiring more than four applications.

When the procedure has been completed there results a well and satisfactorily secured wound; the wound surfaces are in apposition. The perianal skin redundances have been in great part removed, and the traces of the operation then present to inspection two, three or more small compressed wound lines radiating from the anus, as the compressed stumps, when released, retain their linear form and return to the rectum in axial folds. These are gently returned within the sphincter and held in by a firm wedge-shaped gauze compress applied over the anus and firmly secured in place by a well-adjusted T-bandage. The patient is then placed in bed. The rectum should not be irrigated, nor any instrument introduced after the operation has been completed, from fear of tearing open the compressed wound. If the compression has been thorough, and if no dressing, packing or tubing of any kind is placed in the rectum, there will be little, if any, after-pain. The subsequent treatment does not differ from that commonly employed in any method of dealing with hemorrhoids.

Ohio State Medical Journal, Columbus

September

63 Bismuth and Other Paste Treatments in Suppurative Diseases of the Nose and Ear. J. C. Beck, Chicago.
64 Some Aspects of Angina Pectoris. F. Winders, Columbus.
65 Problems of the Obstetrician in Hydrocephalus. W. Gillespie, Cincinnati.
66 Indications for Cesarean Section. W. D. Porter, Cincinnati.
67 Psychotherapy. C. D. Mills, Marysville.
68 Method of Removing the Faucial Tonsil, with New Instruments. M. D. Stevenson, Akron.

American Journal of Medical Science, Philadelphia

October

69 *Exophthalmos and Other Eye Signs in Chronic Nephritis. L. F. Barker and F. M. Hanes, Baltimore.
70 *Nature of the Arteriosclerotic Process. J. G. Adami. Montreal.
71 *Conditions Affecting the Discharge of Food from the Stomach. C. A. Hedblom and W. B. Cannon, Boston.
72 *Relation of the Food-Stuffs to Alimentary Functions. L. B. Mendel, New Haven.
73 *Diet and Care of the Bowels in Typhoid. M. H. Fussell, Philadelphia.
74 Etiology of Loose Bowel Movements. A. D. Blackader, Montreal.
75 *Chronic Constipation Clinically Considered. L. M. Gompertz, New Haven
76 *Location of the Cardiac Apex Beat. H. Dayton, New York.
77 *Orthodiagraphy in Study of Heart and Great Blood-vessels. T. A. Claytor and W. H. Merrill, Washington, D. C.
78 *Acute Leukemia with Special Reference to Auer's Bodies. rk.
79 N. Ginsburg, Philadelphia.
80 Oxyuris Vermicularis was Found in the Appendix. A. P. C. Ashhurst, Philadelphia.

69. **Eye Signs in Chronic Nephritis.**—The authors direct attention to the frequent occurrence of exophthalmos in chronic nephritis, and advance the view that the exophthalmos of chronic nephritis is analogous to that of exophthalmic goiter, being but one of a number of evidences of a chronic systemic intoxication. Among 33 cases of chronic nephritis seen during the first four months of 1909, 16 (48.4 per cent.) showed exophthalmos. The exophthalmos varied greatly in degree, as did the gravity of the nephritic process in the various individuals. Those cases presenting evidences of serious intoxication (suburemic or uremic symptoms) most frequently showed exophthalmos and one or more of the allied ocular signs—anisocoria, von Graefe's, Moebius', or Stellwag's sign. Exophthalmos has been an obvious sign in all of the patients with chronic nephritis which have died in the Johns Hopkins Hospital since Jan. 1, 1909, seven in number.

The authors also observed that the cases of chronic nephritis showing albuminuric retinitis during this period have invariably shown exophthalmos, with one or more other ocular signs. Exophthalmos is but one of several ocular signs which are frequently present in chronic nephritis. Widening of the lid slits (Stellwag's sign), dissociation of the movements of the ball and lids (von Graefe's sign), and the break of convergence of the eyes (Moebius' sign), may be present in a maximum degree in chronic nephritis without the thyroid showing any apparent involvement. The authors believe that the conclusion lies very near, that in both diseases a chronic systemic intoxication affecting the autonomic system is the causative factor in the production of the ocular manifestations. In their series of 16 cases von Graefe's sign was positive in 11 (68.7 per cent.). Stellwag's was positive in 13 (81.3 per cent.), and Moebius' sign was positive in 7 (43.7 per cent.). The pupils were noted as unequal in 5 cases (31 per cent.), and albuminuric retinitis was observed in 8 cases (50 per cent.). Exophthalmos was associated with arterial hypertension (pressure above 160 mm.) in 12 of the 16 cases and in 2 cases a maximum degree of exophthalmos was associated with the maximum arterial tension shown by the patient; as the blood-pressure fell the eyes became less prominent. The authors are not of the opinion, however, that the exophthalmos is due to chronic hypertension. It may exist independently and certainly only a small percentage of cases having arterial hypertension show exophthalmos. It is far more reasonable to assume that the arterial hypertension and the eye signs mentioned are but evidences of poisoning by perhaps separate toxins. It is well known that uremia may develop in a patient whose blood-pressure is not increased, and it seems probable that in chronic renal insufficiency several toxins are present in the blood manifesting themselves in various ways.

70. **Nature of Arteriosclerotic Process.**—According to Adami, the dominant primary event in the arteriosclerotic process—syphilitic, senile or functional—is a localized or it may be a diffuse weakening of the arterial wall and especially of the

media. This induces increased strain on the remaining coats; and if this be not excessive, that strain leads more especially to connective tissue overgrowth and the development of the characteristic lesions of arteriosclerosis.

71. **Discharge of Food from the Stomach.**—The purpose of this investigation was to determine as accurately as possible under otherwise normal conditions, the influence of some of the commoner physical, chemical, and biologic factors on the movements of the stomach and on the rate at which it discharges food into the intestine. The method employed was that used by Cannon in studying the passage of different foodstuffs from the stomach. The food used, except when otherwise specified, was 25 c.c. of mashed potato, with which was mixed 5 grams of subnitrate of bismuth. The consistency, which depends on the amount of water added, was always as nearly uniform as could be judged by the eye and by manipulation. Full-grown normal cats, deprived of food for twenty-four hours previous to the experiment, served for observation. In all the experiments, except those with fluid food, the animals were placed on the holder and fed from a spoon with no special difficulty. At regular intervals after feeding, observations were made by means of a fluorescent screen illuminated by the *x*-rays; and the dark shadows made by the food were traced in outline on transparent paper laid over the screen. The aggregate length of these shadows measured the relative amount of food in the intestine at the different times of observation.

Hedblom and Cannon found that if carbohydrate food is thinned by adding water, there is, within limits, very little change in the rate of exit from the stomach; but adding water to protein food tends to make the discharge more rapid. When hard particles are present in the food the rate of outgo from the stomach is notably retarded. Coarse, branny food leaves the stomach slightly faster than similar foods of finer texture. The presence of gas in the stomach delays gastric discharge, an effect due to the gas preventing the walls of the stomach from exerting the normal mixing and propelling action on the food. No considerable variation from the normal rate of exit from the stomach is observed when the food is fed very hot or very cold. Food with approximately normal acidity leaves the stomach much faster than food which is hyperacid (1 per cent.), a result in harmony with other observations on the acid control of the pylorus. Feeding acid food is followed by deep and rapid peristalsis. Massage of the stomach, even when extensive, has very slight influence on the passage of food through the pylorus. Irritation of the colon (with croton oil) notably retards gastric discharge and delays the movements of food through the small intestine.

72, 73, 75. Abstracted in The Journal, June 5, 1909, pp. 1865, 1866.

76. **Location of Cardiac Apex Beat.**—Dayton claims that the point of maximum impulse frequently does not define the site of the cardiac apex. The point of maximum impulse, either visible or palpable, may be produced by a portion of the heart wall at some distance from the apex. Except in cases in which the visible and palpable impulses coincide, as they usually do with a normal heart, it is better to state simply that pulsation is visible in certain interspaces at a given distance from the median line. It is frequently impossible to determine the left border of the heart by percussion, on account of the changes in the resonance of the adjoining area due to large breasts or intrathoracic conditions, or when the apex is carried so far toward the left by hypertrophy or by displacement of the heart, as a whole, that percussion, unless extremely light, tends to bring out dulness of the lateral surface of the heart. Auscultation, as a means of locating the apex, is at best a makeshift in the event of the failure of the other methods. The most valuable clinical method of locating the cardiac apex is the palpation of its impulse when this can be detected in an interspace. The apex beat should be considered as the point farthest downward and to the left at which a distinct forward thrust of the heart can be felt. The clinical apex so located, being close to the anatomic apex, is of real value in estimating the size or relative position of the heart. Because of the influence of posture on the area of relative cardiac dulness, and the situation of the apex beat, it is advisable, for comparison with subsequent observations, to record whether the patient was examined in the erect or in the dorsal recumbent position.

77. **Orthodiagraphy of the Heart and Great Vessels.**—While orthodiagraphy should not be looked on in any way as a substitute for the other well-known methods of examination of the heart and great vessels, Claytor and Merrill say that it is at the same time a valuable aid. It can be used to make fairly accurate outlines and measurements of the heart and great vessels, thus enabling one to make comparisons with the normal or with subsequent diagrams of the same case. The use of the orthodiagraph may also serve to prove whether or not the size of the heart is influenced to any appreciable degree by a single effort of exertion or by a single therapeutic or gymnastic treatment.

78. **Acute Leukemia.**—Ottenberg observed that the rods described by Auer can be found in many cases of acute leukemia. They have never been found in any other disease, and there is no evidence that they are parasites.

Journal of South Carolina Medical Association, Florence

September

81 Influence of a Model Physician in Prevention and Cure of Tuberculosis. W. B. Young, Rock Hill.
82 Dermoid Cyst Successfully Removed by Ovariotomy. B. W. Tayor, Columbia.
83 [illegible] W. Cheyne, Sumter.
84 [illegible] 'yphoid. W. T. Lander, Greenwood.
85 [illegible] by Cesarean Section. D. L. Maguire, [illegible]
86 Nephritis. W. L Kneese, Lexington, S. C.
87 Prognosis and Treatment of Pellagra. C. H. Lavinder, U. S. P. H. and M.-H. S.
88 Functional Neuroses: Report of Case of Hysterical Amaurosis. L. C. Shecut, Orangeburg.

St. Paul Medical Journal

October

89 The Dismemberment of Traditional Hysteria (Pithiatism). J. Babinski, Paris, and C. E. Riggs, St. Paul.
90 *Tumors of the Breast with Special Reference to Obtaining Better Results in Malignant Cases. E. S. Judd, Rochester, Minn.
91 Eclampsia. L. W. Armstrong, Breckenridge, Minn.

90. **Tumors of the Breast.**—The point emphasized by Judd is that the surgeon can promise a definite cure in the majority of cases in which the patients present themselves for treatment on the appearance of first symptoms. As the technic develops, and physicians have a better knowledge of the extension of the growth of the tumor, they will be able to cure a larger percentage of the advanced cases. Therefore, an early operation, even though badly done, will effect more cures than will a perfect operation which is performed late. Furthermore, in order to get malignant cases early, it is necessary to remove all tumors as soon as they are discovered, as many of the doubtful and some of the supposedly benign cases will eventually prove to be malignant.

Long Island Medical Journal, Brooklyn

September

92 Pathology and Etiology of Arteriosclerosis. A. Murray, Brooklyn.
93 Symptoms and Physical Signs of Arteriosclerosis. R. Clark, Brooklyn.
94 Medical Treatment of Arteriosclerosis. G. R. Butler, Brooklyn.
95 Surgical Treatment of Lesions Due to Arteriosclerosis. P. M. Pilcher, Brooklyn.
96 Calorimetry in Infant-Feeding. W. D. Ludlum, Brooklyn.

Illinois Medical Journal, Springfield

October

97 Diagnostic Aids in Diseases of the Lung and Pleura. E. G. Beck, Chicago.
98 *Poisoning from Bismuth Subnitrate Vaselin Paste. V. C. David and J. R. Kauffman, Chicago.
99 *Surgical Treatment of Appendicitis. C. U. Collins, Peoria.
100 *The Pus Appendix. G. W. Green, Chicago.
101 *Subserous Appendectomy. E. M. Sala, Rock Island.
102 *When Shall We Advise Operation for Fibromata and Myomata of Uterus. J. C. Stremmel, Macomb.
103 *Treatment of Acute Insanity. S. Brown, Chicago.
104 Pyloric Stenosis in Infancy. F. X. Walls, Chicago.
105 The Needs of Crippled Children. J. Ridlon, Chicago.
106 *Rhythmic Inflation of Lungs in Resuscitation. J. A. Capps and D. D. Lewis, Chicago.
107 *Contemporary Workman's Compensation. W. H. Allport, Chicago.
108 Education of Children Affected with Ringworm and Favus of Scalp. J. N. Hyde, Chicago.
109 Surgery of the Brain and Its Coverings. C. C. Rogers, Chicago.

98. Abstracted in THE JOURNAL, June 12, 1909, pp. 1952, 1953. A similar article by these authors appeared in THE JOURNAL, March 27, 1909, p. 1035.

99. Abstracted in THE JOURNAL, June 5, 1909, p. 1879.

100. **The Pus Appendix.**—Green says that the definition of pus appendix is: Any pus inside or outside the appendix caused by the appendix. This will include most of the really acute and some of the chronic cases of appendicitis. The disease occurs at all ages, but is most common from 12 to 30. The three cardinal symptoms are pain, localized tenderness and resistance. The only treatment is removal of the cause, and the sooner this is done the better the patient's chance for a speedy recovery.

101. Abstracted in THE JOURNAL, Jan. 9, 1909, p. 159.

102. Abstracted in THE JOURNAL, June 12, 1909, p. 1953.

103. Published in the *Kentucky Medical Journal*, Oct. 1, 1909.

106. **Inflation of Lungs.**—In a series of eighteen experiments the following routine was carried out by Capps and Lewis: A dog was chloroformed until both respirations and heart beat ceased from one to three minutes. Then a hard rubber tube was slipped through the larynx into the trachea, and by means of a pump air was forced 15 to 20 times a minute into the lungs. A T-tube in the rubber connection provided for the escape of air between inflations and also controlled the pressure of air during inflation. No precaution was taken to filter the air. In addition to this artificial respiration rhythmical pressure over the heart was often practiced. In unresponsive cases 15 minims of a 1 to 1,000 solution of adrenalin were injected directly into the heart itself to provoke the muscular contractions. These efforts at resuscitation were successful in thirteen of the sixteen cases. One to three weeks later these animals, with one exception, were in good health. Postmortem examinations were then made and the lungs examined in gross and microscopically. Capillary hemorrhages were present in two cases. Half the cases showed a marginal emphysema of moderate degree. This seemed to cause no inconvenience to the animals. Pneumothorax was never present. Infection of the lungs or pleura did not occur in any case.

107. Published in *Chicago Medical Recorder*, August, 1909.

American Journal of Surgery, New York

October

110 Fibroid Degeneration of the Appendix. R. T. Morris, New York.
111 Where is the Appendix? G. I. Miller, Brooklyn.
112 *Inflamed Undescended Testicle Causing or Simulating Appendicitis. F. V. Cantwell, Trenton, N. J.
113 *Résumé of the Various Operative Technics for Dislocated Kidney, and the Application of Each. E. Harlan, Cincinnati.
114 *Surgical Treatment of Chronic Nephritis. J. F. Connors, New York.
115 New Methods of Testing the Internal Ear, Specially the Functionating Condition of the Semicircular Canal System; Differential Diagnostic Signs of Cerebellar Abscess and Tumor. J. McCoy, New York.
116 Urogenital Tuberculosis. G. M. Muren, New York.
117 Dilatation of the Female Urethra. T. B. Spence, Brooklyn.

112. **Undescended Testicle and Appendicitis.**—Cantwell reports four cases to show that one cause of undescended testicle is appendicitis in the fetus. The right testicle is more often retained than the left. In every one of these cases the left testicle was normal. The mildest inflammation might cause a cobweb adhesion, enough to stop the descent of this organ. Adhesions are frequently found in the peritoneum of the fetus. In the first three cases the position of the testicle just beneath the appendix was suggestive of the cause of the ailment.

113. An abstract of this article appears in the report of the Mississippi Valley Medical Association.

114. **Chronic Nephritis.**—Connors does think that any surgical treatment can do good in chronic Bright's disease, but in cases of uremia, anuria, or any other acute attack of poisoning consequent to arrest of kidney function, we can help by surgical interference, to be used only after medical aid has failed. If surgery is to be employed, nephrotomy is the operation of choice. It is his belief that decapsulation of the kidney in chronic nephritis is not a logical procedure.

Journal of Ophthalmology and Oto-Laryngology, Chicago

September

118 Diseases and Disturbances of the Eye Induced by Diseases of the Nose and Its Accessory Sinuses. D. W. Detwiler, El Paso, Tex.
119 Report of a Cilium in the Anterior Chamber. W. A. Barr, Chicago.
120 Recent Views Concerning the Tonsils. S. G. Higgins, Milwaukee.

California State Journal of Medicine, San Francisco

October

121 [illegible] Chronic Suppurative Otitis Media. [illegible] Oakland.
122 [illegible] of Middle-Ear Suppuration. L. C. Deane, San Francisco.
123 Eye Symptoms in Intracranial Complications Following Middle-Ea[illegible] Hulen, San Francisco.
124 Treatme[illegible] tion of the Middle-Ear. M. W. Fredri[illegible]
125 Indicatic[illegible] Chronic Purulent Otitis Media. E. C. [illegible]
126 Different[illegible] ic Suppuration of the Middle-Ear. H. Ellis, Los Angeles.
127 Momberg's Tubing Applied as a Tourniquet for Bloodless Surgery of the Pelvis. G. K. Herzog, San Francisco.
128 *Bone Transference. T. W. Huntington, San Francisco.
129 Combined Typhoid and Malarial Infection. H. Spiro, San Francisco.
130 Vaccines. P. Musbaumer, Oakland.
131 Mixed Infections in Pulmonary *Tuberculosis: Their Vaccine Therapy.* G. Martyn, Los Angeles.

128. **Bone Transference.**—In May, 1902, the patient, then 6 years of age, was treated for acute infection—osteomyelitis of the tibia. The middle portion of the shaft of the tibia was completely destroyed. The tibial defect was supplied by carrying the divided end of the middle portion of the fibula across to the tibia, countersinking it in the upper remaining fragment of the tibia, thereby securing union. The result of the first operation was highly satisfactory and the patient was allowed to walk, bearing his weight on the lower end of the fibula in its normal position. At this time there was manifest hypertrophy of the shaft of the fibula. Very soon, however, it was noted that there was a decided lateral bowing of the foot on the fibula, causing a deformity. Accordingly, six months after the first operation, the fibula was again divided at a point opposite the upper end of the lower segment of the tibia. With little difficulty the transference was completed. Again the wound healed kindly and rapid union was obtained. In six weeks, the child began to walk with little, if any limp, and in this respect the condition has improved, until, at the present time, he walks with a limp; runs as other boys do, plays baseball, football, and, in fact, is walking on a leg which is comparatively as useful as the other. The radiogram demonstrates that the fibula has assumed the dimensions of the normal tibia. Joint function at both knee and ankle remain perfect and there is but slight, if any, limitation of leg rotation.

Vermont Medical Monthly, Burlington

September 15

132 Mental Therapeutics. W. H. Pierce, Greenfield, Mass.
133 Traumatic Lumbago. C. A. Pease, Burlinton.
134 Report of the Surgical Service at the Mary Fletcher Hospital, Burlington, for Three Months. H. C. Tinkham, Burlington.
135 Non-Operative Sarcoma: A Treatment. F. L. Tosier, Washburn, Me.

Maryland Medical Journal, Baltimore

October

136 Surgery of the Thyroid Gland. R. Winslow, Braddock Heights.
137 Paracelsus. H. M. Cohen, Baltimore.

Journal Oklahoma State Medical Association, Muskogee

October

138 Diffuse Suppurative Peritonitis. A. L. Blesh, C. E. Lee and H. Reed, Oklahoma City.
139 Preventive Puerperal Septicemia. J. W. Scarborough, Russel.

Interstate Medical Journal, St. Louis

September

140 Toxemia of Pregnancy. H. M. Stowe, Chicago.
141 The Art of Refraction. J. Green, St. Louis.
142 Cerebellar Tumor, with Statistics of 30 Operations. H. Cushing, Baltimore.
143 Acute Prostatitis. H. Jacobson, St. Louis.

Journal of Nervous and Mental Disease, Lancaster, Pa.

October

144 *Juvenile General Paralysis. W. H. Hough, Washington, D. C.
145 *Hereditary Spastic Paraplegia; Report of Seven Cases. J. Punton, Kansas City, Mo.
146 *Thrombosis of the Cervical Anterior Median Spinal Artery; Syphilitic Acute Anterior Poliomyelitis. W. G. Spiller, Philadelphia.

144. **Juvenile General Paralysis.**—The case reported by Hough is considered one of interest not solely on account of its being a typical one both clinically and pathologically, but also because of the presence of the double nucleated Purkinje cells and the calcification of the cerebellar arteries in a girl 14 years of age.

145, 146. Abstracted in THE JOURNAL, July 31, 1909, pp. 405-406.

Archives of Ophthalmology, New York

September

147 Analyses of the Ash of the Normal and the Cataractous Lens. W. E. Burge, Baltimore.
148 Alterations in the Color Fields in Cases of Brain Tumor. J. Bordley and H. Cushing, Baltimore.
149 A Form of Retinal Disease, with Extensive Exudation. G. E. de Schweinitz, Philadelphia.
150 Neuroretinitis in Chlorosis. W. C. Posey, Philadelphia.
151 Metastatic Carcinoma of the Orbit. E. A. Shumway, Philadelphia.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

September

152 The Milk Question from the Standpoint of the Pediatrician. J. H. McKee, Philadelphia.
153 The Therapeutic Action of Iodin and Mercury in Diseases Other Than Syphilis. H. A. Robbins, Washington, D. C.
154 Seasonal Influence on Suicide. W. F. R. Phillips, Washington, D. C.
155 Preventive Medicine in a Neglected Direction. B. C. Downing, Lexington, Mass.
156 Gastric Ulcer. J. V. Shoemaker, Philadelphia.
157 Headaches and Their Treatment. G. Rankin, London, Eng.

Kansas City Medical Index-Lancet

October

158 Surgical Treatment of Malignant Disease of the Rectum. J. M. Frankenburger, Kansas City, Mo.
159 Fractures of the Patella: Should They be Operated on? Why? When? How? A. P. Heineck, Chicago.
160 Use of Thyroid Extract in Treatment of Cretinism. J. E. Shaw, Mill Valley, Cal.
161 Requisites for the Treatment of Psychoneuroses. T. A. Williams, Washington, D. C.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 2

1 The Medical Library in Postgraduate Work. W. Osler.
2 Plea for a More Living Pathology. H. Sainsbury.
3 Case of Double Cervical Rib. R. Donaldson.
4 *Formalin-Iodin Catgut. F. J. Steward.
5 *Chronic Edema of the Face and Mucous Membranes. J. Adam.
6 Suppuration Treated by Vaccines. S. Mallanah.
7 Uncured Rice as a Cause of Beriberi. W. G. Ellis.
8 Operative Treatment of Obstructive Jaundice and Proper Selection of Cases. B. G. A. Moynihan.
9 Resection of Intestine. G. P. Newbolt.
10 Perforative Duodenal Ulcer. A. B. Mitchell.
11 Modern Methods in Treatment of Tuberculous Joints. W. Macewen.
12 *Unusual Case of Echinococcus (Hydatid) Cyst; Diagnosis and Treatment. G. A. Syme.
13 Operations for Liver and Lung Hydatids. F. D. Bird.
14 Four Cases of Removal of the Gasserian Ganglion. A. Blayney.
15 Scopolamin-Morphin Narcosis. C. Leedham-Green.
16 *Series of 212 Cases of Total Enucleation of Prostate. P. J. Freyer.
17 *Diagnosis of Cancer by Examination of the Blood. E. C. Hort.
18 Intestinal Anastomosis. G. H. Edington.
19 Diseases of the Lymphoid Tissue of the Conjunctiva. E. T. Collins.
20 Sarcoma of the Chorioid. J. Hinshelwood.
21 The Visual Acuity of School Children. W. B. I. Pollock.
22 Ophthalmia Neonatorum. S. Stephenson.
23 Malformed Cornea in Inherited Syphilis. E. Fuchs.
24 Treatment of Glaucoma by Trephining. F. Fergus.
25 Serodiagnosis of Syphilis. A. Fleming.
26 Diaphragm Test for Binocular Vision and Its Disorders. N. B. Harman.
27 A Sectomagraph with Binocular Fixation. J. H. Tomlinson.

4. **Formalin-Iodin Catgut.**—For about two and one-half years Steward has used formalin-iodin catgut. This is ordinary commercial formalin catgut, made up into short skeins (each skein containing about the right quantity for one operation), and steeped in a 1 per cent. solution of iodin in water for ten days. It is usually sterile in five days, but Steward steeps it for ten to be certain. At the commencement of the operation, skeins of the sizes required are picked out of the stock jars with sterile forceps, and placed in carbolic acid (1 in 20) till needed. This dissolves out the excess of iodin, which might possibly cause irritation. This gut is very strong, although after it has been kept for several months the very fine sizes become brittle. It is very resistant, and consequently there is *no fear of too rapid absorption.* It is beautifully smooth, uniform in diameter, inelastic and delightful to handle.

5. **Edema of the Face and Mucous Membranes.**—Adam reports 2 cases. In the first case the swelling began at the inner canthus of the left eye, and slowly increased, involving the cheek and the side of the nose; finally solid edema extended from eye to mouth, and from the nose over the whole cheek; it caused the patient much mental misery, owing to the disfigurement. There was no pain or tenderness, but occasionally a feeling of heat and a red flush; the edges of the nostrils, especially the left, were covered with thick hard crusts; the mucous membrane of both inferior turbinals was much thickened, that on the right showing a growth, like a small cherry, occluding the nostril. The tissue of the soft palate and uvula was much thickened; adenoids were still present. The treatment adopted was the removal of crusts in the nostrils with hydrogen peroxid, followed by application of silver nitrate dissolved in sweet spirits of niter, and by an ointment; reduction of turbinal hypertrophy, removal of adenoids and tip of uvula; application of mercurial ointment to cheek, overlaid with absorbent cotton and a firm elastic bandage; iodids and a thyroid preparation internally. After two months the edema disappeared and remained cured; there is still slight thickening of the soft palate and inferior turbinals.

The other patient had had chronic edema of the left cheek, upper lip and the left lobule of the nose for four years; had attended several hospitals and seen nine physicians. The edema, especially that of the upper lip, was very disfiguring. Crusts were found inside the left nostril, and an ulcerated groove down the center of the mucous surface of the upper lip, due to the sharp and carious edges of the everted central incisors. The treatment adopted was similar to that in the first case, with a similar result. Adam points out (1) that the disease is a local and not a constitutional one; (2) that, *so far as the face is concerned, the primary lesion is probably always one of a mucous membrane,* or more usually of a mucous orifice; (3) that the edema may affect the mucous membrane as well as the skin; (4) that the condition is curable.

12. **Unusual Cases of Echinococcus Cysts.**—Syme reports a number of rather unusual cases, in some of which the symptoms closely simulated those of gall-stones. Rupture of the cyst eventually led to the making of a correct diagnosis. In one case the cysts were located in the ilium; in another the cyst was in the muscles of the back, to one side of the spine, which communicated with a second cyst in the chest. In a third case, cysts were present among the spinal muscles, the vertebræ were eroded, and cysts had also formed between the laminæ and dura mater. Treatment consisted of enucleation of the cysts.

16. **Enucleation of the Prostate.**—In Freyer's series of 644 operations of enucleation of the prostate to date, there have been 48 octogenarians, ranging from 80 to 89 years, and 9 bordering on this period, aged 79, with 6 deaths. The average age of all his patients is 69 years, the prostates weighing from one-half ounce to 17 ounces, with an average of 2½ ounces. In connection with these 644 operations, there have been 39 deaths, in periods varying from six hours to thirty-seven days after operation, or a mortality of 6.05 per cent. The mortality has been gradually diminishing from 10 per cent. in the first 100 cases to 4.24 per cent. in the last 200. The causes of death were: Uremic symptoms due to chronic kidney disease, 16; heart failure, 6; septicemia, 2; shock, 4; exhaustion (kidneys much diseased), 1; mania (hereditary in one), 2; malignant disease of the liver, 2; heat stroke, 1; pneumonia, 1; acute bronchitis, 2; pulmonary embolism, 1; and cerebral hemorrhage with paralysis, 1. In 114 cases vesical calculi were removed at the same time; but all the deaths in these cases are accepted in connection with the prostatectomy, none being put down to the suprapubic lithotomy involved.

17. **Diagnosis of Cancer by Blood Examination.**—The *finding* of a normal antitryptic content in any cases in which the

question of malignancy has arisen appears to be of the greatest value in excluding a diagnosis of cancer. Unfortunately, the positive value of a negative diagnosis is not absolute, since the test was of no value in 6 cases out of 100 examined by Hort. The finding of a raised antitryptic content in any case in which the question of malignancy has arisen does not justify a positive diagnosis of the presence of cancer, since Hort found constantly a raised content in measles, scarlatina, intestinal tuberculosis, acute septicemia, some cases of leprosy and syphilis, and a similar rise will also almost certainly be found in many other infections, as well as in certain autoinfections, such as nephritis. In spite of this, however, a raised antitryptic content often appears to be of great value in deciding a doubtful opinion as to the presence of malignant disease, since the greatest incidence of cancer is at the period when the infective incidence (hetero-infection) is at the lowest.

In the absence of obvious infection, the possibility that a raised antitryptic content may sometimes be due to autoinfection from non-malignant cell aberration must constantly be borne in mind. A raised antitryptic content appears to be of the greatest value in distinguishing between an innocent neoplasm and a malignant one.

The Lancet, London

October 2

28 Medical Education. G. R. Murray.
29 St. George's Hospital and the Progress of Physic. H. D. Rolleston.
30 Theory of Vision. F. W. Edridge-Green.
31 *Pathology of Lead Poisoning. K. W. Goadby, and F. W. Goodbody.
32 Spinal Anesthesia in Children and Infants. H. T. Gray.

31. **Pathology of Lead Poisoning.**—Goadby and Goodbody are of the opinion that the essential and primary action of lead intoxication is the production of minute and microscopic hemorrhages in various portions of the body, including the nervous system; and that the clinical symptoms of lead palsy, and its good prognosis when treated early, are explainable by the presence of minute hemorrhages in the peripheral nerves. The presence of these minute hemorrhages in the nervous system also gives an explanation of the varied pathologic findings of many previous workers.

Medical Press and Circular, London

September 15

33 Diagnosis of Pelvic Tumors. A. Giles.
34 Congenital Heart Affections. G. Carpenter.
35 Psychic Treatment of Alcoholic Intemperance. J. D. Quackenbos.
36 *Hereditary Sudden Death. A. Gilbert and A. Baudouin.

36. **Hereditary Sudden Death.**—Gilbert and Baudouin discuss instances of sudden death in persons who may or may not have presented premonitory attacks of syncope, and which is due to an hereditary disposition. In these cases there is a sort of diathesis, the diathesis of sudden death. Sex appears to possess a certain influence. The authors' inquiry bore on fourteen persons who had died suddenly, and of this number eleven were men and three were women. The age at which the fatal syncope took place oscillated between 20 and 62 years. Speaking generally, the incidence of sudden death is earlier in the descendant than in the ancestor by whom the diathesis was transmitted. The underlying cause of the diathesis is heredity. In most of their cases this can only be traced 1 degree, from father to son. In 2 cases it was traced back 2 degrees. Independently of heredity, Gilbert and Baudouin's investigations brought to light many and various predisposing causes. Some of them, supervening only a short time before the final syncope, played the part of accidental causes. These, indeed, are anything but constant, for in several instances nothing whatever could be discovered. In one, a person free, so far as known, from disease and previously in excellent health, fell dead while out walking; similarly in the case of a man, who all at once felt queer, went to bed, asked for something hot, and expires forthwith.

In all are found traces of the same diathesis, and the authors suggest that this may help to explain many cases of death under chloroform. Patients suffering from very mild attacks of typhoid fever sometimes die unexpectedly, and here, again, it would be well to inquire into the family history. One of the most interesting points, possibly the most important of all, is the supervention of periodic attacks of syncope before the fatal one. In other cases the syncopal tendency was less marked, and in some it is distinctly stated that none had ever occurred. In these cases, apart from the morbid heredity and the habitual pallor of the patient, sometimes noted, there is little to note. Death may not be preceded by any premonitory signs. One patient fell dead in the street, another when out walking, and the body of a third was found in bed with the bedclothes undisturbed and a calm look on his face. Sometimes, however, the patient experiences a vague malaise, he groans, asks for something to drink, turns and twists himself about, but in all death is sudden, not the death that follows cerebral hemorrhage, but death due to arrest of the heart.

Journal of Tropical Medicine and Hygiene, London

September 1

37 *A Possible Natural Enemy to the Mosquito. J. M. Atkinson.
38 Filaria Philippinensis. G. C. Low.
39 Influence of Certain Biologic Factors on Migration of Mosquitoes. E. H. Ross.
40 Eruption Following Vaccination, From Its Clinical Aspect. G. A. P. Ross.
41 Recent Trypanosome Transmission Experiments. J. L. Todd.
42 Blackwater Fever. H. Hearsey.
43 Blackwater Fever in Cyprus. G. A. Williamson.
44 Sleeping Sickness H. Hearsey.

37. Published in the *Lancet*, Sept. 4, 1909.

Journal of Obstetrics and Gynecology of British Empire, London

September

45 *Treatment of Puerperal Convulsions. H. M. Little.
46 Complications and Difficulties in a Series of 250 Ovariotomies. J. M. M. Kerr.
47 Chorioepithelioma Developing in Connection with Birth of a Living Child. H. T. Hicks.
48 Torsion of the Internal Genitalia in the Presence of a Large Fibromyoma of the Uterus. A. Connell.
49 Ligature of the Ovarian Vessels as a Substitute for Oöphorectomy. J. W. Ballantyne.

45. **Puerperal Convulsions.**—Little says: Minimize the use of narcotics and anesthetics. Chloroform is rarely indicated for the control of convulsions, but should be used when general anesthesia is required for examination or delivery. 2. Immediate delivery is advisable, particularly when the child is viable. 3. In the majority of cases the onset of labor is more or less intimately associated with the onset of convulsions; *accouchement forcé*—preferably Harris' method followed by version—has given the best results. 4. Immediately after delivery, if not before, the stomach should be washed out, and several ounces of magnesium sulphate, well diluted with warm water, should be introduced through the tube. The patient should then be sweated by means of a hot-air bath or hot pack. 5. If convulsions recur after delivery, and particularly in postpartum eclampsia, the best results are obtained by withdrawing from 700 to 900 c.c. of blood from one of the veins of the forearm. 6. A large quantity of fluid (forced fluids) should be given for several days, and the amount so given should be tabulated carefully for comparison with the amount of fluid eliminated in the urine and stools. If the excretion is inadequate, repeat the sweating and purgation. Do not allow the patient to become waterlogged. 7. Careful records of ingestion and excretion should be kept for at least ten days, as the involution of the uterus has a marked effect on the general metabolism, particularly between the sixth and ninth days.

Australasian Medical Gazette, Sydney

August

50 Fibroid Tumor of the Uterus. J. A. G. Hamilton.
51 Uterine Prolapse. E. T. Thring.
52 Some Difficult Cases of Urinary Fistula in Woman: Prophylaxis and Treatment. R. Worrall.
53 Congenital Pyloric Stenosis. R. B. Wade.
54 Syphilis as a Cause of Insanity. S. H. Montgomery.
55 Chronic Gonorrhea in the Male. H. S Stacy.
56 *Tr[illegible] neurisms by Distal Ligature—A [illegible] E. J. A. Haynes.
57 As[illegible] c Enlargement, Relieved by In- [illegible] Adrenalin. T. Ambrose and N. J Gerrard.
58 *Abnormality of the Gall-Bladder. H. C. Hinder.

56. **Treatment of Innominate Aneurisms.**—Haynes tied, simultaneously, the right common carotid artery and third part of the subclavian artery in a man, aged 42. The patient made an uninterrupted recovery, the wounds healing by *first*

intention. The radial pulse was fairly established at the wrist, the congestion and edema had gone from the arm, pain, thrill and pulsation had ceased in the tumor, the aneurismal bruit had gone, and the patient's cough was much improved. He expectorated blood-tinged mucus for a while, and the râles in the right chest were very few. Three months afterward there was no pain or difficulty in breathing, the tumor was decreasing in size, and there was no pulsation, thrill or bruit. The man had good use of his arm, and wanted permission to go to work, felling trees with an axe. He resumed his former hard work and suffered no inconvenience.

58. **Abnormality of Gall-Bladder.**—In one case Hinder found a septum which divided the gall-bladder into two unequal parts. This septum was thin and extended about half way up the fundus. It was placed transversely parallel to the under surface of the liver. There were stones in the main portion, which held direct communication with the cystic duct, and there was one small flat stone in the smaller division. In the second case no gall-bladder was to be found at first, but careful search disclosed a tiny gall-bladder about an inch long and as large as the terminal joint of the little finger. The wall was much thinner than that of an ordinary gall-bladder, and it contained several very small calculi. In the third case there was absolutely no sign of gall-bladder or gall-bladder fissure, merely a little dimple at the edge of the liver. There were no adhesions, but a falciform band of tissue about 1¼ inches in length, stretching from the liver to the peritoneum covering the bile duct, hepatic artery and portal vein. The common duct was clear. The pancreas was enlarged and somewhat hard. Both of these two men claimed to have rather poor digestion.

Annales de Gynécologie et d'Obstétrique, Paris

September, XXXVI, No. 9, pp. 513-576

59 Human Milk Drawn and Fed to Infants. (La tétée artificielle.) V. Wallich.
60 *Vomiting of Pregnancy. (Des vomissements de la gestation.) A. Pinard. Commenced in No. 7.

60. **Vomiting of Pregnancy.**—Pinard presents a historical sketch of the subject from Hippocrates to date. In his experience with 843 cases the primiparæ predominated; in 72 per cent. the vomiting commenced early and lasted for about three months, finishing before the end of the fourth month; in 28 per cent. the vomiting continued for five months and more, and in 5 per cent. throughout the entire pregnancy. In 19 out of 127 cases of hydatid mole vomiting occurred and always of exceptional severity. He never observed fever with the vomiting, but the pulse was frequently modified, and sometimes within wide limits in the same woman at different hours. When the pulse is over 100 the organism is suffering from loss of water, the urine becomes scanty and respiration is rapid and shallow. Constipation is the rule and there is extreme thirst. The tongue is very red, as if varnished, and, with or without hallucinations or tendency to syncope, coma ensues and the woman dies without ever having presented a higher temperature except during the last hours. In some cases the vomiting ceased two days before death. The uterus is generally rather smaller in these toxic vomiting cases, probably from the excessive loss of fluids, and the walls are flabby, sometimes leading to rejection of the idea of a pregnancy. Even when the uterus has been artificially evacuated and the organism resupplied with fluids, the acceleration of the pulse may persist for some time, after cessation of the vomiting, sometimes as long as for three weeks after the uterus has been emptied. He has noticed that these women lose weight as pregnancy progresses; this was noticeable in 42 per cent. of his cases. All these facts observed have convinced him that the vomiting is a sign of intoxication, and that, as a rule, the organism conquers this intoxication, but it may be so severe as to lead to a fatal outcome; the most constant, the most easily supervised and at the same time the most serious reaction is the acceleration of the pulse. He is inclined to assume that the pregnant organism generates some poison during the first half of the pregnancy, which has a special action on the vomiting center and causes, first, hypotension and then acceleration of the heart. Another poison seems to be generated during the last half of the pregnancy which acts also on the vomiting center, but induces hypertension and a tendency to convulsions. The liver is probably concerned in the production of these toxins, but the principal part, he believes, is played by the corpus luteum, which during pregnancy is larger than the hypophysis. In some cases the vomiting persists even after subsidence of the cause, from what he calls the *aptitude vomitive individuelle*, and in these cases suggestion may arrest the tendency to vomit. But when the intoxication still persists, suggestion alone is impotent, and treatment must be directed to eliminate the toxins, relieve the liver and kidney functioning, and prevent further autointoxication by restricting the patient to a milk-vegetable diet. So long as the pulse is under 100, the toxemia is not so excessive as to require interruption of the pregnancy, but he advises this at once when the pulse goes over 100. Delay may be fatal, or, at least, may expose the patient to the danger of paralysis. In 5 of his cases neuritis with atrophic paralysis developed later. Saline transfusion before, during and after the evacuation of the uterus is a useful adjuvant, and no food should be allowed until the woman can take considerable quantities of water by the mouth without vomiting. Water and milk should be all that is allowed until the pulse is permanently normal once more. He has witnessed serious symptoms develop after ingestion of an egg before the pulse rate was normal. In conclusion, he gives the details of 16 cases of uncontrollable vomiting in his experience since 1902, in which treatment was on these principles, the results justifying his assertions.

Annales de l'Institut Pasteur, Paris

August, XXIII, No. 8, pp. 585-663

61 *Immunization of Cattle Against Tuberculosis. (Recherches sur l'immunisation antituberculeuse.) H. Vallée.
62 Mechanism of Action of Arsenic Derivatives in Trypanosome Infection. (Mécanisme d'action des dérivés arsénicaux dans les trypanosomiases.) C. Levaditi.
63 *Rabies at Constantinople. (La rage et le traitement antirabique à Constantinople.) P. Remlinger.

61. **Immunization of Cattle Against Tuberculosis.**—Vallée here presents the conclusions of six years of extensive research in this line at the state veterinary college at Alfort. About 166 grown cattle and 500 calves were utilized in the experiments; the best results were obtained with intravenous inoculation of living tubercle bacilli of a much attenuated strain derived from a horse. The slight virulence of this strain and its complete absorption after inoculation are important factors in the results obtained. Inoculation with killed bacilli never produced satisfactory results. Ingestion of the cultures by the mouth conferred temporary immunity, the more complete the younger the animal. Vaccination by the mouth, as he calls this method, permitted the young cattle to resist for a year close contact with other cattle with open lung tuberculous lesions, and even after two years of this intimate intercourse with infected animals, they presented only insignificant or hidden lesions, while the control animals showed signs of severe and advanced tuberculosis. This vaccination by the mouth of the young cattle, he affirms, supplemented by the search for and elimination of all cattle with open tuberculosis, opens a prospect for a simple, safe and certain method of eradication of tuberculosis from cattle. The full details of his research will be published in the transactions of the recent International Veterinary Congress which was held at The Hague in September.

63. **Comparative Rarity of Rabies at Constantinople.**—Remlinger estimates the number of vagrant dogs in Constantinople as between 60,000 and 80,000, and yet, he states, rabies is comparatively rare. Only 49 dogs were brought to the public pound on account of rabies, in 1908, and of the 978 persons applying for treatment at the Ottoman Pasteur Institute in 1908 all but 157 of the patients came from regions outside of Constantinople and its suburbs. The rabies virus at Constantinople, however, seems to display unusual virulence when infection does occur. The dogs possess no natural immunity, but are distinguished by the fact that they keep strictly to their own territory, the dogs of one section of the city never venturing into another section, or, if they do, they are torn to pieces by the dogs of the section into which they intrude, while all live in peace when certain arbitrary boundaries are respected. On this account, when rabies does develop in one

section it never spreads to another. A further prophylactic factor is the instinctive avoidance by the dogs of one of their number who is sick with rabies. He is avoided and forced back into his lair if he attempts to come out. This instinctive prophylaxis among dogs is observed everywhere and explains why rabies does not spread more, but remains limited to the section where it first develops. At Constantinople the sections to which the dogs confine themselves are sometimes not more than 150 feet long, and generations succeed each other without ever passing beyond its boundaries. Remlinger estimates that fully 100 dogs die every day at Constantinople, but the birth-rate keeps pace with the mortality or exceeds it.

Presse Médicale, Paris

September 22, XVII, No. 76, pp. 665-672

64 *Urine Reaction for Diagnosis of Incipient Tuberculosis. (L'uro-réaction, diagnostic précoce de la tuberculose.) F. Malmejac.
65 Apparatus for General Anesthesia with Ethyl Chlorid. P. Rosenthal and A. Berthelot.

September 25, No. 77, pp. 673-680

66 *Intoxication from Cheese. (Intoxications par le fromage.) A. Fonteyne.

64. **Reaction in Urine in Incipient Tuberculosis.**—Malmejac has been making a special study for ten years of the acidity of the urine in tuberculosis, having found that it differs from normal urine in respect to the persistence of the acidity. Urine from a healthy individual not taking medicine retains its acidity on standing not longer than from three to ten days, while urine from the tuberculous, under the same conditions, retains its acidity for twelve days at least and up to three months or more. Comparison with other affections that might be confused with tuberculosis confirms this practically exclusive persistence of the acid reaction in tuberculosis for an unusually long period. The reaction persists longer, also, the more advanced the tuberculous process, averaging seventeen days for tuberculosis of the first degree, twenty-six for the second, and forty for the third. The acidity may be determined by adding 3 drops of a 1 per cent. solution of phenolphthalein to 10 c.c. of urine diluted with 50 c.c. of distilled water, strictly neutral, in a dish with a flat bottom. The titration is done with decinormal solution of sodium hydrate; the findings represent the proportion of sulphuric acid to the liter. An increase in the acidity of the urine, on standing, is frequently observed in diabetes, but a prompt decrease in the acidity of normal urine is the rule, and the durable level plateau of the curve in tuberculosis is a characteristic phenomenon observed in 97 per cent. of all the tuberculous individuals he has examined, often even before clinical signs of the disease became apparent.

66. **Intoxication from Cheese.**—Fonteyne reports an epidemic of gastrointestinal disturbances affecting forty persons who had partaken of a certain cheese, and bacteriologic and experimental research disclosed a special cocco-bacillus, not resembling the paratyphoid group.

Semaine Médicale, Paris

September 29, XXIX, No. 39, pp. 457-468

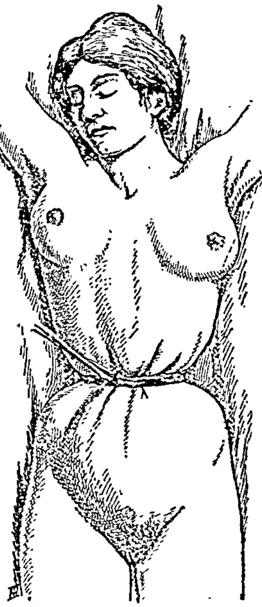
67 *Determination of Primary Focus in Generalized Cancer. (Détermination du foyer primitif dans les tumeurs malignes généralisées.) B. Huguenin.

67. **Determination of Primary Focus with Generalized Malignant Disease.**—Huguenin has witnessed a number of cases in which the metastatic tumors rapidly grew to large proportions while the primary growth was small. In one case the primary tumor on the back of the hand was no larger than a nut, while the metastatic tumor in the axilla rapidly grew to the size of an orange. The discovery of an embolus in the center of a tumor confirms its secondary nature; it is frequently possible to locate the primary growth by the structure of the cells in the embolus. In a recent case of this kind he declared that the carcinoma in the bone must be secondary to a primary tumor in the liver or suprarenals, and autopsy later revealed it in the liver. When a carcinoma develops in an organ not containing epithelium, it is wisest to assume that it is a secondary growth. The same applies to a cancer in which the epithelial cells do not correspond to the cells of this kind normally in the region. A crater-like depression is characteristic of primary cancer in the stomach, but cancer of the liver never presents this form, he says, unless it is secondary. A primary liver cancer is knobby; there is no depression in the center and the nodule may have a diameter of 10 or 20 cm., while the secondary carcinoma rarely exceeds 4 cm. in diameter. Carcinoma in other organs, especially the esophagus, is primary when it presents the crater form; the secondary growth generally develops underneath the mucosa and merely lifts it up without forming part of it.

Archiv für Gynaekologie, Berlin

LXXXIX, No. 1, pp. 1-243. Last Indexed September 11, p. 901

68 Metastatic Appendicitis and Involvement of the Adnexa. (Secundäre Skolekoiditis bei Angina; Mitbetheiligung der Adnexe.) H. Offergeld.
69 *The [illegible] to Arrest Hemorrhage. ([illegible] 'Iomburg'schen Blutleere" i[illegible] W. Sigwart.
70 Eclampsia Not Dependent on the Parathyroids. L. Seitz.
71 Colloid Adenocarcinoma of Cervix. (Schleimkrebs des Collum uteri.) J. W. Miller.
72 An Endochorial Amniotic Cyst. E. v. Graff.
73 True Melena in New-Born Infant. (Melaena vera neonatorum.) v. Rundstedt.
74 *Puerperal Autogenic Infection. (Zur Frage der Selbstinfection.) A. Schmidt.
75 *Influence of Spinal Anesthesia on Contractions of Uterus in [illegible] über den Einfluss der lumbalen [illegible] die Wehenthätigkeit des mensch[illegible]siologischen Geburt.) F. Westermark.
76 *Physiology of the Amniotic Fluid. (Weitere experimentelle Beiträge zur Physiologie des Fruchtwassers.) B. Wolff.
77 *Operative Treatment of Puerperal Peritonitis and Thrombophlebitis. G. Leopold.



69. **Hemostasis with Constricting Belt in Obstetrics.**—Sigwart writes from Bumm's clinic at Berlin to report some new cases, bringing the total to 24, in which the Momburg technic was applied to arrest threatening postpartum hemorrhage. The experiences were extremely favorable, and there were no serious by-effects of any kind; in several cases the women bore the constriction without general anesthesia. The rubber tube is wound two or three times around the waist and drawn tighter until the hemorrhage stops. The simplicity of the procedure and its immediate effect commend it, he asserts, for general adoption in obstetrics, for which it is better adapted than for gynecology. He declares that clinical observation and post-mortem findings have confirmed the harmlessness of the procedure, and as no special skill is required for it, he advocates its use in urgent cases while awaiting the arrival of the physician. As the only failure consists in not drawing the belt tight enough, he gives a picture to counteract the natural dread of this procedure, showing a woman with the belt applied arresting postpartum hemorrhage. (The technic was mentioned in THE JOURNAL, Nov. 14, 1908, page 1742.)

74. **Autogenic Puerperal Infection.**—In Schmidt's bacteriologic examination of 100 cases before and after childbirth, virulent streptococci were not found in any instance before delivery, and yet of the patients 20 had a febrile puerperium.

75. **Spinal Anesthesia and Its Influence on Labor.**—Westermark has been continuing his research on the influence of anesthetics on labor, and here reports 19 cases in which 0.08 gm. stovain was injected for spinal anesthesia during labor. The effect revealed some interesting physiologic facts, but did not suggest that the technic was as suitable for obstetric purposes as chloroform, which is much simpler to use and less dangerous.

76. **Physiology of the Amniotic Fluid.**—Wolff gives the details of a long series of experiments which have established beyond question, he thinks, that the amniotic fluid is not a product of the mother. The fetus is the exclusive and direct source of the amniotic fluid.

77. **Operative Treatment of Puerperal Peritonitis and Phlebitis.**—Leopold has previously reported 16 cases of acute puerperal peritonitis in which prompt operation saved twelve of the women, and 2 cases of thrombophlebitis in which one of the patients was saved by ligation of the ovarian veins, the third day after the first chills. He here reports another case of acute peritonitis in which the patient was saved by suturing a ruptured point in the small intestine, the day before delivery. The case confirms the advantages of laparotomy for peritonitis if not more than 2 days old, while the resistance is still good and before the intoxication is too severe. In 2 other cases, purulent thrombophlebitis after delivery was treated by ligation of the ovarian veins, but in both the intervention came too late. In one the source of the pyemia was evidently the suppurated site of the placenta, and early panhysterectomy might possibly have saved the patient. In the second case gonococci had evidently penetrated from the vagina into the veins of the paravaginal tissue, with inflammation of the veins in the right groin and secondary thrombosis of the iliac veins and vena cava. The mistake was made that the vein in the groin was not incised and evacuated when its swollen condition first attracted attention, the fifth or sixth day. The reliance on expectant treatment proved vain. When puerperal thrombosis is accompanied by a rising temperature or a pulse curve which slowly subsides again, the prognosis is favorable, but not when there are remittent high fever and chills. This indicates always some localized pus focus. If the pus cannot escape outward, or if it is in an ovarian or iliac vein, it empties into the vein above, and this must be prevented at all hazards; this is possible only by early search for and evacuation of the pus focus. The thrombi may pass into the vena cava early and the germs penetrate the vessel wall, the resulting inflammatory edema soldering veins and arteries together. In the last case this was responsible for his mistaking the hypogastric artery for the thrombosed vein. The attempt to ligate the iliac vein proved impossible, as it could not be separated from the artery. The lesson from his 21 cases, he says, is to operate and operate early, but never too late.

Berliner klinische Wochenschrift

September 20, XLVI, No. 38, pp. 1717-1756

78 *Tuberculin Treatment of Pulmonary Tuberculosis. P. K. Pel.
79 Combination of Iron and Tuberculin. (Klinische Erfahrungen mit Eisentuberkulin.) W. Schultz.
80 Complement-Binding Reaction in Serum and Effusions of the Tuberculous. (Studien über das Blutserum der Tuberkulösen und die Exsudate der serösen Höhlen mittelst Komplementbindung.) C. Frugoni.
81 Saucepan Sliver in Appendix. (Abgesprungenes Kasserollestuck im Wurmfortsatz einer Bruchgeschwulst.) F. Zorn.
82 Nature of Pancreatic Diabetes. (Wesen des Pankreasdiabetes.) H. Hinselmann.
83 *Arteriosclerotic Variations in Blood-Pressure in Single Individual. (Ueber arteriosclerotische Blutdruckunterschiede beim einzelnen Menschen.) H. Engel.
84 History of Ether Anesthesia. (Die Geschichte der Aethernarkose.) M. Bohm.
85 Seasickness. (Seekrankheit.) G. Thoma.
86 Injuries of Posterior Vagina. (Isolierte Kohabitationsverletzungen des hinteren Scheidengewölbes.) G. Bamber.

78. **Tuberculin Treatment of Pulmonary Tuberculosis.**—Pel read this article at the recent international medical congress, concluding his remarks with the statement that tuberculin is still in the period of trial. He has been unable to acquire much enthusiasm for it. There are so many unaccountable by-effects, such as headache, fever, insomnia, rheumatoid pains, loss of appetite and weight, acceleration of the pulse and general depression, while acute exacerbations or complications of the tuberculous process may be encountered, as also an individual hypersusceptibility to tuberculin. The course of treatment is so long, so complicated, the indications are so restricted and there are so many contraindications, that he declares that failure to institute tuberculin treatment is not a sin of omission, for the present. The clinics, hospitals and sanatoriums should make a point of comparative and critical study of tuberculin treatment to place it on a solid basis.

83. **Early Sign of Arteriosclerosis.**—Engel calls attention to the differential importance of variations in the blood pressure in different vascular areas. The systolic blood pressure is the expression of the effort of the heart plus the elasticity of the vessels. If there is mechanical obstruction in the vessels, the blood pressure in the area will be proportionately reduced. A circumscribed arteriosclerotic process causes the blood pressure in the region to become much lower than in the area on the other side. The variation is slight, not more than from 5 to 15 mm. mercury, and it may not be evident to the finger, but it can be readily measured with the tonometer. The difference has diagnostic importance only when it is found constant on repeated examination. Consequently, if a constant difference of 5 mm. is found in the pressure in the right and left arm, for instance, this is an essential aid for the diagnosis of arteriosclerosis. This finding is also important for differentiating primary nephritis from arteriosclerosis. In nephritis the cause of the increased blood pressure acts uniformly throughout the body, and local disturbances do not occur in single vascular areas, as in case of arteriosclerotic lesions in the walls of the vessels.

Deutsche medizinische Wochenschrift, Berlin

September 23, XXXV, No. 38, pp. 1641-1680

87 *Revised Conception of Scrofula. (Der gegenwärtige Stand der Lehre von der Skrofulose.) T. Escherich.
88 *Puncture of the Corpus Callosum for Hydrocephalus. (Behandlung des Hydrocephalus durch den Balkenstich.) F. v. Bramann.
89 *Localization of Motor Aphasia. (Allgemeine Betrachtungen über die Lokalisation der motorischen Aphasie.) C. v. Monakow. Commenced in No. 37.
90 Importance of Special Sanatorium for Industrial Accidents. (In welchen Heilanstalten wird die Behandlung von Unfallverletzten am zweckmässigsten durchgeführt?) O. Vulpius.
91 *Negative Experiences to Date with Cultivated Spirochetes. (Bisherige Erfahrungen mit der gezüchteten Spirochaete pallida.) J. Schereschewsky.
92 *Faradization of Bladder in Treatment of Tabetic Ataxia. Herzog.
93 Study of Invagination of the Bowel. (Darminvagination.) C. Riedel.
94 Biology of Colostrum. J. Bauer.
95 Case for Tests of Sense of Smell. (Kompendiöser quantitativer Olfaktometer zu klinischen Zwecken.) W. Sternberg.

87. **Scrofula.**—Escherich remarks that the cutaneous Pirquet tuberculin reaction and scrofulous skin lesions—scrofulides—are influenced alike by injections of tuberculin. This cutaneous test has shown the connection between the non-bacillary manifestations of scrofula and tuberculosis. The true cause of scrofulous changes in the skin is the hypersensitiveness of the skin and mucosæ resulting from the presence of the antibody, that is, the tuberculous "allergy." The difference between the toxic and the bacillary symptoms of tuberculosis has long been recognized, and is a reason for maintaining the term "scrofula" or "scrofulide" to express the tuberculo-toxic changes in the skin. The term "scrofula" he would retain for those cases of tuberculosis in which the focus is latent and there are merely the lesions known as "scrofulides." If signs of a manifest bacillary focus are present also, he would call this "scrofulo-tuberculosis." Pure scrofula is the most harmless form of tuberculosis in children. A complete cure is the rule, and it confers relative protection against later infection. This also applies to some extent to scrofulo-tuberculosis. It may be obstinate, but it is generally benign. The discovery of the typical scrofulides is thus important for both prognosis and treatment. He discusses the connection between the status lymphaticus and scrofula, accepting some congenital constitutional anomaly, manifested by the former, as the basis for the development of the scrofulous symptoms in the course of tuberculosis. The article, which was presented as an address at the recent international medical congress, emphasized the importance of tuberculin in treatment of scrofula, to supplement the usual measures.

88. **Treatment of Hydrocephalus by Puncture of the Corpus Callosum.**—Bramann has applied this method of treatment in 22 cases, including 8 of hydrocephalus. He aims to relieve the pressure on the brain by perforation of the corpus callosum to establish a broad communication between the fluid in the ventricle and the subdural space of the brain and spinal cord. He assumes that the active flow of the fluid between the ventricle and subdural space will prevent the opening from growing up. For children it is unnecessary to trephine, as a curved cannula can be inserted through a small incision in the dura, close to the sinus, after incising the skin about the middle of the anterior fontanelle, 1 cm. to the right of the median line. The cannula is then pushed in between the wall of the sinus

and the surface of the brain toward the median line until the tip of the cannula reaches the falx and glides along this to the corpus callosum, through which it is pushed. After allowing escape of fluid, which is generally under high pressure, the cannula is worked to and fro until the hole is sufficiently enlarged to ensure its remaining open; then the cannula is removed. In his 8 cases of hydrocephalus the improvement was marked, the fontanelle no longer protuding, but sinking in after the intervention, showing the reduction in pressure. All the children were improved in general health and became less apathetic. Among the cases reported in detail was that of a boy of 10, whose head measured 65 cm.; improvement has been progressive during the year since the operation. The results attained to date confirm the advantage of this continuous drainage by puncture of the corpus callosum in every case of hydrocephalus, even in infants, rebellious to internal measures and not benefited by puncture of the ventricle and lumbar puncture.

89. **Localization of Motor Aphasia.**—Monakow concludes this long review of recent research on this subject and clinical experience with the statement that our present means of research are unable to determine the exact connection between the Broca localization, and the remainder of the cortex. There is evidently a comprehensive and complicated center for speech, or rather an area of excitation, both synchronous and successive excitation, of the foci aggregate.

91. See Berlin Letter, Oct. 2, 1909, p. 1112.

92. **Faradization of the Bladder in Treatment of Ataxia in Tabes.**—Herzog applied the induced current directly to the urethra by introducing an electrode about 1 cm. deep into the urethra, with a large electrode on the lumbar region of the spinal cord, passing the current for about three minutes. The measure was applied for cystitis with recurring pyelitis in a patient with tabetic ataxia. From the first sitting the patient noticed that not only the bladder trouble, but his gait was improved, and after twenty applications he was able to return to military service. The ataxia is now so slight that it does not attract lay attention. In 3 other cases similar faradization was equally successful in 2, and with satisfactory results in the other. There was no possibility of influence from suggestion in 2 of the cases. He ascribes the effect to the powerful stimulus from the periphery by way of the intact sensory tracts from the bladder, so he calls the method "faradization of the bladder." He cites Hamilton's recently published success from irrigation of the bladder in tabes, the effect of which is probably by the same mechanism as from the electric treatment.

Deutsche Zeitschrift für Chirurgie, Leipsic

September, CI, Nos. 1-2, pp. 1-204

96 *Operative Treatment in 30 Cases of Tuberculosis of the Kidney. (Zur Nierenchirurgie.) H. Doering.
97 *Separation of Both Upper Jaws from Base of Skull and Their Reduction. (Abbruch beider Oberkiefer von der Schädelbasis und ihre Reponierung.) Thöle.
98 Stomach Surgery. (Operationen am Magen.) K. Mizokuchi.
99 Pseudoperitonitis from Addison's Disease. (Pseudoperitonitis bedingt durch Morbus addisonii.) M. Landow.
100 *Mechanism of Anal Sphincter. (Experimentell-chirurgischer Beitrag zur Lehre vom Mechanismus der Analsphinkteren.) H. Matti.
101 Rupture of Biceps. (Zur Frage der Ruptur des Biceps brachii.) G. Ledderhose.
102 *Trephining for Fracture of Base of Skull. (Zur Frage der Trepanation bei Schädelbasisbrüchen.) H. Luxembourg.
103 Subcutaneous Prolapse of the Bowel. (Zur Lehre vom subkutanen Intestinalprolaps.) Esau.

96. **Tuberculosis of the Kidney.**—Doering reports the experiences at Braun's clinic at Göttingen with 30 cases of tuberculosis of the kidneys, all but 10 in women. In 19 cases the kidneys were the only site of the tuberculosis. Heredity seemed evident in 9 cases. Pain was the first sign of trouble in all but 2 cases, in which no pain was experienced at any time; fever was observed in the majority, but the kidney was enlarged in only 6 cases. In 25 cases an operation was performed, and 19 of the 20 patients who survived the operation have been recently examined; 4 succumbed to tuberculosis in other organs, but 16, 80 per cent., are in good health from one to eleven years since. He compares his primary mortality with that of others in a compilation of 642 cases. Only 4 of his patients with combined tuberculosis were permanently cured; besides the kidney process, one had a tuberculous bone lesion, the others an apical or cutaneous lesion. He summarizes the details of the entire series.

97. **Dislocation of the Entire Upper Jaw.**—In a horseback accident the upper jaw was separated from the base of the skull, but Thöle succeeded in restoring it to place by means of an appliance exerting pressure by a band passing around an upright rod at the back of the neck, worn for three weeks, and followed by a dental appliance. By the end of six weeks articulation was apparently normal once more.

100. **The Mechanism of the Anal Sphincters.**—Matti's attention was called to this subject by partial incontinence in 3 cases of destruction of some of the muscles, interrupting the continuity of the external sphincter, without disturbance in the innervation. The patients all complained of diarrhea; it was due solely to mechanical insufficiency, although ascribed erroneously to recurring intestinal catarrh and long treated as such in vain. The anus seemed to be intact. The partial defect was in the internal sphincter. Fifty pages are devoted to the description and discussion of his experimental research on the subject, all confirming the functional dependence between the internal and external sphincters and the importance of respecting the sphincters in operating on the rectum. The internal sphincter shares in the peristalsis, and its function in closing the orifice is dependent on mechanical stimulation from the external sphincter muscle.

102. **Trephining in Fracture of the Base of the Skull.**—Luxembourg reports the details of 5 cases in which trephining was done for symptoms of pressure on the brain after fracture of the base of the skull. Clots were found in each case between the dura and the skull, fully explaining the symptoms. The improvement at once or some time after was striking; consciousness returned, the headache subsided partially or entirely and the paralysis was much improved.

Fortschritte der Medizin, Leipsic

September 10, XXVII, No. 25, pp. 929-976

104 Treatment of Psoriasis. (Behandlung der Schuppenflechte.) Hübner.
105 Unilateral Movements of the Eyes. (Einseitige Augenbewegungen.) A. Bielschowsky. Commenced in No. 24.

Medizinische Klinik

September 19, V, No. 38, pp. 1411-1464

106 *[illegible] lpoint. F. Kraus.
107 *[illegible] F. Krause.
108 [illegible] N. Ortner.
109 *[illegible]
110 [illegible]
111 [illegible]
112 *[illegible]
113 Secondary Cutaneous Scirrhus. (Ueber sekundären Szirrhus der Haut.) C. Kreibich.
114 *Determination of Acidity of Gastric Juice. (Zur Methodik der Aziditätsbestimmung im Magensafte.) A. Müller..
115 Sporotrichosis. B. Bloch.

106. **Serodiagnosis from Clinical Standpoint.**—Kraus remarks that serodiagnosis not only reveals the identity of the disease-germ, but is an index of the reacting powers of the organism. The defensive reactions are both cellular and humoral, and they are by no means restricted to infections, but have a much broader field. Only part of the antitoxins produced serves for the defense of the organism; a certain proportion evidently becomes the source of further disturbances. He adds that there are probably still other kinds of immunity of which we are ignorant, and it is also probable that cellular immunization plays a far more comprehensive part in clinical pathology than our experimental immunity research has yet revealed. He declares that there is not a single absolutely specific reaction; each biologic reaction is only relatively specific, dependent on the reacting organism, its reaction products and the quantity of antigen available or used for the reaction. He presents the subject classified under various headings and the problems it is opening up before us. In syphilis, for example, it is important to determine whether the Wassermann test is constantly positive in every case of unmistakable syphilis and every return after a quiescent period; whether mercurial treatment constantly transforms a positive into a negative

77. **Operative Treatment of Puerperal Peritonitis and Phlebitis.**—Leopold has previously reported 16 cases of acute puerperal peritonitis in which prompt operation saved twelve of the women, and 2 cases of thrombophlebitis in which one of the patients was saved by ligation of the ovarian veins, the third day after the first chills. He here reports another case of acute peritonitis in which the patient was saved by suturing a ruptured point in the small intestine, the day before delivery. The case confirms the advantages of laparotomy for peritonitis if not more than 2 days old, while the resistance is still good and before the intoxication is too severe. In 2 other cases, purulent thrombophlebitis after delivery was treated by ligation of the ovarian veins, but in both the intervention came too late. In one the source of the pyemia was evidently the suppurated site of the placenta, and early panhysterectomy might possibly have saved the patient. In the second case gonococci had evidently penetrated from the vagina into the veins of the paravaginal tissue, with inflammation of the veins in the right groin and secondary thrombosis of the iliac veins and vena cava. The mistake was made that the vein in the groin was not incised and evacuated when its swollen condition first attracted attention, the fifth or sixth day. The reliance on expectant treatment proved vain. When puerperal thrombosis is accompanied by a rising temperature or a pulse curve which slowly subsides again, the prognosis is favorable, but not when there are remittent high fever and chills. This indicates always some localized pus focus. If the pus cannot escape outward, or if it is in an ovarian or iliac vein, it empties into the vein above, and this must be prevented at all hazards; this is possible only by early search for and evacuation of the pus focus. The thrombi may pass into the vena cava early and the germs penetrate the vessel wall, the resulting inflammatory edema soldering veins and arteries together. In the last case this was responsible for his mistaking the hypogastric artery for the thrombosed vein. The attempt to ligate the iliac vein proved impossible, as it could not be separated from the artery. The lesson from his 21 cases, he says, is to operate and operate early, but never too late.

Berliner klinische Wochenschrift

September 20, XLVI, No. 38, pp. 1717-1756

78 *Tuberculin Treatment of Pulmonary Tuberculosis. P. K. Pel.
79 Combination of Iron and Tuberculin. (Klinische Erfahrungen mit Eisentuberkulin.) W. Schultz.
80 [illegible] tion in Serum and Effusions of the [illegible] über das Blutserum der Tuberkulösen [illegible] serösen Höhlen mittelst Komplementbindung.) C. Frugoni.
81 Saucepan Sliver in Appendix. (Abgesprungenes Kasserollestuck im Wurmfortsatz einer Bruchgeschwulst.) F. Zorn.
82 Nature of Pancreatic Diabetes. (Wesen des Pankreasdiabetes.) H. Hinselmann.
83 *Arteriosclerotic Variations in Blood-Pressure in Single Individual. (Ueber arteriosclerotische Blutdruckunterschiede beim einzelnen Menschen.) H. Engel.
84 History of Ether Anesthesia. (Die Geschichte der Aethernarkose.) M. Bohm.
85 Seasickness. (Seekrankheit.) G. Thoma.
86 Injuries of Posterior Vagina. (Isolierte Kohabitationsverletzungen des hinteren Scheidengewölbes.) G. Bamber.

78. **Tuberculin Treatment of Pulmonary Tuberculosis.**—Pel read this article at the recent international medical congress, concluding his remarks with the statement that tuberculin is still in the period of trial. He has been unable to acquire much enthusiasm for it. There are so many unaccountable by-effects, such as headache, fever, insomnia, rheumatoid pains, loss of appetite and weight, acceleration of the pulse and general depression, while acute exacerbations or complications of the tuberculous process may be encountered, as also an individual hypersusceptibility to tuberculin. The course of treatment is so long, so complicated, the indications are so restricted and there are so many contraindications, that he declares that failure to institute tuberculin treatment is not a sin of omission, for the present. The clinics, hospitals and sanatoriums should make a point of comparative and critical study of tuberculin treatment to place it on a solid basis.

83. **Early Sign of Arteriosclerosis.**—Engel calls attention to the differential importance of variations in the blood pressure in different vascular areas. The systolic blood pressure is the expression of the effort of the heart plus the elasticity of the vessels. If there is mechanical obstruction in the vessels, the blood pressure in the area will be proportionately reduced. A circumscribed arteriosclerotic process causes the blood pressure in the region to become much lower than in the area on the other side. The variation is slight, not more than from 5 to 15 mm. mercury, and it may not be evident to the finger, but it can be readily measured with the tonometer. The difference has diagnostic importance only when it is found constant on repeated examination. Consequently, if a constant difference of 5 mm. is found in the pressure in the right and left arm, for instance, this is an essential aid for the diagnosis of arteriosclerosis. This finding is also important for differentiating primary nephritis from arteriosclerosis. In nephritis the cause of the increased blood pressure acts uniformly throughout the body, and local disturbances do not occur in single vascular areas, as in case of arteriosclerotic lesions in the walls of the vessels.

Deutsche medizinische Wochenschrift, Berlin

September 23, XXXV, No. 38, pp. 1641-1680

87 *Revised Conception of Scrofula. (Der gegenwärtige Stand der Lehre von der Skrofulose.) T. Escherich.
88 *Puncture of the Corpus Callosum for Hydrocephalus. (Behandlung des Hydrocephalus durch den Balkenstich.) F. v. Bramann.
89 *Localization of Motor Aphasia. (Allgemeine Betrachtungen über die Lokalisation der motorischen Aphasie.) C. v. Monakow. Commenced in No. 37.
90 Importance of Special Sanatorium for Industrial Accidents. (In welchen Heilanstalten wird die Behandlung von Unfallverletzten am zweckmässigsten durchgeführt?) O. Vulpius.
91 *Ne[illegible] with Cultivated Spirochetes. [illegible] der gezüchteten Spirochaete [illegible]
92 *Faradization of Bladder in Treatment of Tabetic Ataxia. Herzog.
93 Study of Invagination of the Bowel. (Darminvagination.) C. Riedel.
94 Biology of Colostrum. J. Bauer.
95 Case for Tests of Sense of Smell. (Kompendiöser quantitativer Olfaktometer zu klinischen Zwecken.) W. Sternberg.

87. **Scrofula.**—Escherich remarks that the cutaneous Pirquet tuberculin reaction and scrofulous skin lesions—scrofulides—are influenced alike by injections of tuberculin. This cutaneous test has shown the connection between the non-bacillary manifestations of scrofula and tuberculosis. The true cause of scrofulous changes in the skin is the hypersensitiveness of the skin and mucosæ resulting from the presence of the antibody, that is, the tuberculous "allergy." The difference between the toxic and the bacillary symptoms of tuberculosis has long been recognized, and is a reason for maintaining the term "scrofula" or "scrofulide" to express the tuberculo-toxic changes in the skin. The term "scrofula" he would retain for those cases of tuberculosis in which the focus is latent and there are merely the lesions known as "scrofulides." If signs of a manifest bacillary focus are present also, he would call this "scrofulo-tuberculosis." Pure scrofula is the most harmless form of tuberculosis in children. A complete cure is the rule, and it confers relative protection against later infection. This also applies to some extent to scrofulo-tuberculosis. It may be obstinate, but it is generally benign. The discovery of the typical scrofulides is thus important for both prognosis and treatment. He discusses the connection between the status lymphaticus and scrofula, accepting some congenital constitutional anomaly, manifested by the former, as the basis for the development of the scrofulous symptoms in the course of tuberculosis. The article, which was presented as an address at the recent international medical congress, emphasized the importance of tuberculin in treatment of scrofula, to supplement the usual measures.

88. **Treatment of Hydrocephalus by Puncture of the Corpus Callosum.**—Bramann has applied this method of treatment in 22 cases, including 8 of hydrocephalus. He aims to relieve the pressure on the brain by perforation of the corpus callosum to establish a broad communication between the fluid in the ventricle and the subdural space of the brain and spinal cord. He assumes that the active flow of the fluid between the ventricle and subdural space will prevent the opening from growing up. For children it is unnecessary to trephine, as a curved cannula can be inserted through a small incision in the dura, close to the sinus, after incising the skin about the middle of the anterior fontanelle, 1 cm. to the right of the median *line*. The cannula is then pushed in between the wall of the sinus

and the surface of the brain toward the median line until the tip of the cannula reaches the falx and glides along this to the corpus callosum, through which it is pushed. After allowing escape of fluid, which is generally under high pressure, the cannula is worked to and fro until the hole is sufficiently enlarged to ensure its remaining open; then the cannula is removed. In his 8 cases of hydrocephalus the improvement was marked, the fontanelle no longer protuding, but sinking in after the intervention, showing the reduction in pressure. All the children were improved in general health and became less apathetic. Among the cases reported in detail was that of a boy of 10, whose head measured 65 cm.; improvement has been progressive during the year since the operation. The results attained to date confirm the advantage of this continuous drainage by puncture of the corpus callosum in every case of hydrocephalus, even in infants, rebellious to internal measures and not benefited by puncture of the ventricle and lumbar puncture.

89. **Localization of Motor Aphasia.**—Monakow concludes this long review of recent research on this subject and clinical experience with the statement that our present means of research are unable to determine the exact connection between the Broca localization, and the remainder of the cortex. There is evidently a comprehensive and complicated center for speech, or rather an area of excitation, both synchronous and successive excitation, of the foci aggregate.

91. See Berlin Letter, Oct. 2, 1909, p. 1112.

92. **Faradization of the Bladder in Treatment of Ataxia in Tabes.**—Herzog applied the induced current directly to the urethra by introducing an electrode about 1 cm. deep into the urethra, with a large electrode on the lumbar region of the spinal cord, passing the current for about three minutes. The measure was applied for cystitis with recurring pyelitis in a patient with tabetic ataxia. From the first sitting the patient noticed that not only the bladder trouble, but his gait was improved, and after twenty applications he was able to return to military service. The ataxia is now so slight that it does not attract lay attention. In 3 other cases similar faradization was equally successful in 2, and with satisfactory results in the other. There was no possibility of influence from suggestion in 2 of the cases. He ascribes the effect to the powerful stimulus from the periphery by way of the intact sensory tracts from the bladder, so he calls the method "faradization of the bladder." He cites Hamilton's recently published success from irrigation of the bladder in tabes, the effect of which is probably by the same mechanism as from the electric treatment.

Deutsche Zeitschrift für Chirurgie, Leipsic

September, CI, Nos. 1-2, pp. 1-204

96 *Operative Treatment in 30 Cases of Tuberculosis of the Kidney. (Zur Nierenchirurgie.) H. Doering.
97 *Separation of Both Upper Jaws from Base of Skull and Their Reduction. (Abbruch beider Oberkiefer von der Schädelbasis und ihre Reponierung.) Thöle.
98 Stomach Surgery. (Operationen am Magen.) K. Mizokuchi.
99 Pseudoperitonitis from Addison's Disease. (Pseudoperitonitis bedingt durch Morbus addisonii.) M. Landow.
100 *Mechanism of Anal Sphincter. (Experimentell-chirurgischer Beitrag zur Lehre vom Mechanismus der Analsphinkteren.) H. Matti.
101 Rupture of Biceps. (Zur Frage der Ruptur des Biceps brachii.) G. Ledderhose.
102 *Trephining for Fracture of Base of Skull. (Zur Frage der Trepanation bei Schädelbasisbrüchen.) H. Luxembourg.
103 Subcutaneous Prolapse of the Bowel. (Zur Lehre vom subkutanen Intestinalprolaps.) Esau.

96. **Tuberculosis of the Kidney.**—Doering reports the experiences at Braun's clinic at Göttingen with 30 cases of tuberculosis of the kidneys, all but 10 in women. In 19 cases the kidneys were the only site of the tuberculosis. Heredity seemed evident in 9 cases. Pain was the first sign of trouble in all but 2 cases, in which no pain was experienced at any time; fever was observed in the majority, but the kidney was enlarged in only 6 cases. In 25 cases an operation was performed, and 19 of the 20 patients who survived the operation have been recently examined; 4 succumbed to tuberculosis in other organs, but 16, 80 per cent., are in good health from one to eleven years since. He compares his primary mortality with that of others in a compilation of 642 cases. Only 4 of his patients with combined tuberculosis were permanently cured; besides the kidney process, one had a tuberculous bone lesion, the others an apical or cutaneous lesion. He summarizes the details of the entire series.

97. **Dislocation of the Entire Upper Jaw.**—In a horseback accident the upper jaw was separated from the base of the skull, but Thöle succeeded in restoring it to place by means of an appliance exerting pressure by a band passing around an upright rod at the back of the neck, worn for three weeks, and followed by a dental appliance. By the end of six weeks articulation was apparently normal once more.

100. **The Mechanism of the Anal Sphincters.**—Matti's attention was called to this subject by partial incontinence in 3 cases of destruction of some of the muscles, interrupting the continuity of the external sphincter, without disturbance in the innervation. The patients all complained of diarrhea: it was due solely to mechanical insufficiency, although ascribed erroneously to recurring intestinal catarrh and long treated as such in vain. The anus seemed to be intact. The partial defect was in the internal sphincter. Fifty pages are devoted to the description and discussion of his experimental research on the subject, all confirming the functional dependence between the internal and external sphincters and the importance of respecting the sphincters in operating on the rectum. The internal sphincter shares in the peristalsis, and its function in closing the orifice is dependent on mechanical stimulation from the external sphincter muscle.

102. **Trephining in Fracture of the Base of the Skull.**—Luxembourg reports the details of 5 cases in which trephining was done for symptoms of pressure on the brain after fracture of the base of the skull. Clots were found in each case between the dura and the skull, fully explaining the symptoms. The improvement at once or some time after was striking; consciousness returned, the headache subsided partially or entirely and the paralysis was much improved.

Fortschritte der Medizin, Leipsic

September 10, XXVII, No. 25, pp. 929-976

104 Treatment of Psoriasis. (Behandlung der Schuppenflechte.) Hübner.
105 Unilateral Movements of the Eyes. (Einseitige Augenbewegungen.) A. Bielschowsky. Commenced in No. 24.

Medizinische Klinik

September 19, V, No. 38, pp. 1411-1464

106 *Serodiagnosis from Clinical Standpoint. F. Kraus.
107 *Operative Treatment of Epilepsy. F. Krause.
108 Pyoth
109 *Differe
die
110 Preve
111
112 *
H. Schlotter.
113 Secondary Cutaneous Scirrhus. (Ueber sekundären Szirrhus der Haut.) C. Kreibich.
114 * of Gastric Juice. (Zur Methodik der
Magensafte.) A. Müller..
115

106. **Serodiagnosis from Clinical Standpoint.**—Kraus remarks that serodiagnosis not only reveals the identity of the disease-germ, but is an index of the reacting powers of the organism. The defensive reactions are both cellular and humoral, and they are by no means restricted to infections, but have a much broader field. Only part of the antitoxins produced serves for the defense of the organism; a certain proportion evidently becomes the source of further disturbances. He adds that there are probably still other kinds of immunity of which we are ignorant, and it is also probable that cellular immunization plays a far more comprehensive part in clinical pathology than our experimental immunity research has yet revealed. He declares that there is not a single absolutely specific reaction; each biologic reaction is only relatively specific, dependent on the reacting organism, its reaction products and the quantity of antigen available or used for the reaction. He presents the subject classified under various headings and the problems it is opening up before us. In syphilis, for example, it is important to determine whether the Wassermann test is constantly positive in every case of unmistakable syphilis and every return after a quiescent period; whether mercurial treatment constantly transforms a positive into a negative

response; whether women apparently healthy but giving a positive response bear syphilitic children; whether persons giving a positive reaction are able to infect others, have relapses and develop tabes, paralysis or aortitis, and, finally, whether new primary infection is possible in persons giving a positive response. At the same time the investigator must bear in mind the analogy to other infectious diseases; the survival of the antibodies after recovery from the disease; the occurrence of positive reaction many years after the last manifestations; the fact that men giving a positive reaction are yet able to marry and rear healthy children and the wife remain healthy; fluctuations in the reaction; the possible development of paralysis notwithstanding apparently effectual mercurial treatment, and the occurrence of a positive response even in the stage of paralysis, although the latter cannot be cured by mercury. It is possible, he continues, that the Wassermann test may prove a guide for an individualizing biologic mercurial treatment and aid in the prognosis, as positive findings indicate that recovery is not complete. He regards it as established that progress will be realized by occasional repetition of the test and institution of renewed treatment in case of positive findings, hoping that in this way it may be possible to ward off paralysis and tabes. He has not found the cutaneous tuberculin reaction of much value for adults, but considers it extremely important for children. The tuberculin reactions depend on the force of the stimulus, the excitability and capacity for reacting of the cells—all of which are variable factors, and all should be borne in mind in estimating the response to the test. In conclusion, he remarks that the internists and the general practitioners pay altogether too little heed to the possibilities of serodiagnosis at present. There is grave danger that by leaving to special institutions the exercise of the different diagnostic and therapeutic measures, they may lose their own birthright, and that diseases, and not the diseased individuals, will get the treatment. There is also danger for the general practitioner striving to learn the technic of some special diagnostic method, such as the Wassermann test, and taking a special "lightning course" in the technic. While specializing in this single reaction he leaves out of account altogether the other achievements of immunity research, and thus gets a one-sided view of the subject.

107. **Operative Treatment of Epilepsy.**—Krause has operated in 12 cases of general epilepsy since 1906, and one of his patients, a man of 31, was so improved that he has been able to manage his large factory for three and a half years. Before the operation he had up to three seizures a day, but since they recur only every fourth or sixth week. Another patient, a man of 21, has had no seizures during the year and a half since the operation. No appreciable benefit was observed in the other cases. Cooperation between neurologists and surgeons will certainly lead to progress in the operative treatment of epilepsy, such as has already been realized in other operative affections of the spinal cord and brain.

109. **Differentiation of Tricuspid Insufficiency.**—Hering remarks that increased knowledge has robbed us of what was supposed to be a certain sign of tricuspid insufficiency, namely, the jugular-ventricle pulse (*Kammervenenpuls*). This is as much as to say that we have at present no means of diagnosing tricuspid insufficiency. At the same time, in a certain number of cases, we are in a position to exclude tricuspid insufficiency, notwithstanding the existence of the jugular-ventricle pulse. These are the cases in which the jugular pulse is so weak that it is scarcely recognized as such, but the pulse is of the permanently irregular type, there are no signs of stasis and there may be absolutely no heart murmur. These features of the case exclude tricuspid insufficiency. Only when the jugular-ventricle pulse is pronounced should it be suspected.

112. **Operations for Goiter.**—Schloffer has been able to learn the late results in 235 of 450 patients on whom he has operated for goiter during the last six years, and expects to hear from others. In 199 cases the patients report most gratifying results from the operative treatment, but in 28 the tumor has recurred, causing some disturbance, and in 32 without disturbances. Eight patients say the operation gave no relief. The operative mortality in the cases without suffocation was 1.6 per cent., but 5 of the 130 patients who had typical attacks of suffocation succumbed.

114. **Simplified Technic for Determination of the Gastric Acidity.**—Müller gives a colored chart to serve as the color scale for the test, the eight separate tints ranging from clear yellow, in the cases with total absence of acidity, through intermediate orange tints to a reddish violet in the cases with high acidity. He never found more than 1 per thousand acidity in his tests. The stain is a cold saturated alcoholic solution of the stain tropæolin-00, and 0.1 c.c. of the solution is added to 5 c.c. of gastric juice, when at once the mixture is ready for comparison with the color scale given on a fly-leaf for ready reference. He adds the tabulated details of 24 cases in which the findings with this simple test were compared with the more complicated usual tests, the agreement between them being almost complete. This test reveals the proportion of hydrogen ions present, and thus is a more exact index of the actual acidity than the titration methods. The tint is always the same, he says, for fluids containing the same number of these ions.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

September, XXX, No. 3, pp. 261-416

116 *Appendicitis and Affections of the Adnexa. (Appendicitis und Erkrankungen der Adnexa uteri.) A. v. Rosthorn.
117 Rare Case of Double Uterus. (Uterus duplex bicornis.) H. Schiller.
118 Congenital Dislocation of the Humerus. (Luxatio humeri congenita.) H. Luft.
119 *The Levator Ani in Respect to Recurrence After Operations for Prolapse. (Bedeutung des Levatorspaltes für die Rezidivprognose der Prolapsoperation.) Adolph.

116. **Appendicitis and Affections of the Adnexa.**—This last communication from the pen of v. Rosthorn discusses the connection between disturbances in the appendix and adnexa and the differentiating points. He gives a number of ilustrative examples; and appeals for further study of: 1. The frequency of appendicitis in women. 2. The causal relation between affections of the appendix and of the female genitalia. 3. Differentiation. Disturbances in menstruation and painful menstruation should not always be referred to pathologic changes in the genital sphere, especially in virgins; pelvic symptoms and suppuration may be traceable to the appendix. 4. Adhesions connecting the appendix and the pathologic internal genital organs are comparatively rare. When they do occur pronounced symptoms may be absent, but they favor the spread of infectious processes from one to the other. 5. The development of appendicitis, chronic from the start, must be accepted. Efforts to define this vague clinical picture are in order to differentiate it from the numerous similar conditions from other causes. 6. The appendix should be examined whenever the abdomen is opened for any cause, but its prophylactic removal requires further research on the physiologic value of the appendix and of the disturbances from lack of its functioning; of the histologic changes to determine whether they are of pathologic nature or not; of the proportion of cases of appendicitis in persons who have been operated on for other pelvic affections; the proportion of permanent cures of the genital affections after appendicectomy and the causes of the numerous failures. 7. The slightest suspicion of appendicitis of course turns the scale in favor of the abdominal route for operating on the pelvic organs. The acceptance of the principle of always removing the appendix brings with it the constant choice of the abdominal route for all operations on the adnexa. 8. There are no sufficient data at present to form any judgment in regard to the frequency of acute appendicitis as a cause of abortion and of postappendicitic changes as a cause of habitual abortion, and the importance of appendicitis as a factor in sterility.

112. **Operations for Goiter.**—Schloffer has been able to learn **Ani Muscles.**—Adolph has been able to examine recently 152 women of the 186 operated on for prolapse between 1904 and 1907, seeking to determine the influence of the gap between the levator ani muscles as a factor in the prolapse. Childbirth stretches these muscles so far apart that the solidity of the floor of the pelvis is much impaired, and his research has shown that this insufficiency of the genital hiatus is frequently overlooked or neglected. It is sometimes impossible to remedy

it, and he asks whether tubal sterilization ought not to be proposed for women with total insufficiency corrected by an operation but sure to return under the stress of another delivery. In his experience the cleft was found nearly normal in 66 cases, moderately enlarged in 23, and extremely enlarged in all the others. Classification of the prolapses shows that the size and severity parallel the width of the cleft of the levator ani muscles, and the end results of the operation for the prolapse show this parallel course still more pronounced. The size of the uterus is also important, as total prolapse more readily occurs with a small hiatus when the uterus is small. Sometimes large prolapse of the vagina with a much enlarged cervix simulates total prolapse, but in reality this is not the case unless the uterus is small. When it is large it does not descend so readily, but when the hiatus is very wide the size of the uterus is not of much moment for the amount of prolapse. It is therefore evident that by determining the width of the gap between the levator ani muscles it is possible to foretell the outcome of an operation for prolapse. Even hysterectomy does not ensure against recurrence of the prolapse if the hiatus is left unduly gaping. If it cannot be closed, the aim should be to hold up the uterus in some way and to strengthen the levator muscles by exercise. The recent anatomic research in this line explains the success realized by T. Brandt in the cure of prolapse by his gymnastic exercises, which was at first regarded so skeptically. All this applies especially to primiparæ, as the conditions preparing the way for prolapse are created almost invariably at the first child-birth. Forcible delivery is especially liable to enlarge this hiatus and thus deprive the genital organs of the necessary support from the juxtaposition of the levator ani muscles. In about half of the cases of the widest hiatus the child had been delivered with forceps. In 80 per cent. of his cases the women had remained in bed until the eighth day after delivery.

Münchener medizinische Wochenschrift

September 21, LVI, No. 38, pp. 1929-1984

120 *Hereditary Transmission of Syphilis. (Vererbung der Syphilis auf Grund serologischer und bakteriologischer Untersuchungen.) L. Baisch.

121 Cholera a Nitrous-Acid Intoxication. (Der Nachweis des Choleragiftes.) R. Emmerich.

122 [illegible] uricles with Mitral Stenosis. [illegible] des Elektrokardiogramms bei [illegible] and M. Steshinsky.

123 *Febrile Reaction to Salt in Infants and Elimination of Chlorin. (Das sogenannte Salzfieber und die Chlorausscheidung beim Säuglinge.) R. Friberger.

124 Miliary Tuberculosis in the Puerperium. (Miliartuberculose im Wochenbett.) Rose.

125 The Trach [illegible] er die von Prowazek bei Trachom [illegible] und ihren diagnostischen Wert.)

126 Determination of Coagulating Time of Blood. (Neue Methode zur Bestimmung der Gerinnungszeit des Blutes.) W. Riebes.

120. **Inheritance of Syphilis.**—Baisch reports from Döderlein's clinic for women at Munich the results of his research seeking to define the serologic and bacteriologic laws governing the transmission of syphilis to the offspring. In about 80 per cent. of the cases of maceration of the fetus, syphilis must be incriminated, but in the remainder nephritis in the mother or possibly tuberculosis, malformation of the fetus or entanglement in the umbilical cord is responsible for the premature death of the fetus. Typical habitual abortion in the first four months of pregnancy does not belong to the symptomatology of syphilis. The mothers of syphilitic children are probably all infected with syphilis, but fully 75 per cent. of such mothers in his experience presented no certain signs of syphilis and the Wassermann test is frequently negative. Colle's and Profeta's laws are explained by the fact that new infection is impossible, as infection is already installed. The best prospects for therapeutic success are in energetic treatment of the mothers before and during the pregnancy.

123. **Fever After Injection of Salt in Infants.**—Friberger reports experiences with 74 infants, averaging three months old, injected subcutaneously with 10, 30 or 60 c.c. of physiologic salt solution. A rise of temperature was observed in only 28, and although the curve was typical, yet there did not seem to be any regularity in the febrile response. As a rule, the response was most regular in the infants with intestinal disturbances.

Virchows Archiv, Berlin

September, CXCVII, No. 3, pp. 385-566

127 Complications and Spread of Pulmonary Tuberculosis. (Studien über Komplicationen der Lungentuberkulose und über die Verbreitung der Tuberkelbazillen in den Organen und im Blut der Phthisiker.) G. Liebermeister.

128 Nodules Resembling Tubercles, Caused by Eggs of *Schistosomum japonicum*. (Ueber tuberkelähnliche Knötchenbildung verursacht durch Eier von Schistosomum japonicum.) T. Tsunoda.

129 Influence on the Heart Musculature of Disturbances in the Coronary Arteries. (Einfluss der Erkrankungen der Koronararterien auf die Herzmuskulatur mit besonderer Berücksichtigung der chronischen Aortitis.) E. v. Redwitz.

130 Mixed Tumors of Parotid Region and Endotheliomas. (Zur Kenntnis der sog. Mischgeschwülste der Parotisgegend und Zur Endotheliomfrage.) J. Fick.

131 Total Obliteration of the Portal Vein Trunk. (Ueber totale Hämangiomatöse Obliteration des Pfortaderstammes und über hepatopetale Kollateralbahnen.) L. Pick.

132 Retrogression of Sebaceous Glands. (Ueber Rückbildung an Talgdrüsen.) J. Misumi.

133 Elements of Diseased Kidney Taking Blue Stain. Ueber durch die Weigertsche Fibrinfärbungsmethode blaufärbbare Anteile der kranken Niere.) V. Babes.

134 *Origin of Appendicitis. (Ueber die Aetiologie und Pathogenese der Epityphlitis mit besonderer Berücksichtigung der hämatogenen Infektion.) Y. Oguro.

134. **Origin of Appendicitis.**—Oguro was unable to discover anything suggesting the probability of blood-borne infection in the 20 cases of appendicitis of which the minute details are reported. On the other hand, the findings all confirm the importance of stagnation in the bowel content as the chief factor in appendicitis.

Wiener klinische Wochenschrift, Vienna

September 23, XXII, No. 38, pp. 1289-1322

135 Treatment of Progressive General Paralysis with Injection of Nuclein. J. Donath.

136 *Hemolytic Reaction in Blood with Cancer. (Weitere Untersuchungen über hämolytische Reaktionen und über Komplementbindung im Blute von Krebskranken.) G. Kelling.

137 Signs of Insufficiency of the Muscles in Congenital Dislocation of the Hip Joint. (Ueber das Trendelenburgsche Phänomen bei der angeborenen Hüftverrenkung.) A. Saxl.

138 Femoral Hernia (Radikal-Operationen von Schenkelhernien.) J. Fabricius.

139 *Diseases of the Esophagus. (Erkrankungen der Speiseröhre.) R. Kaufmann and R. Kienböck. Commenced in No. 36.

136. **Hemolytic Reaction in the Serum with Cancer.**—Kelling's statements in regard to the specific reaction in the serum of patients with cancer have been summarized in THE JOURNAL. He here tabulates the findings in a series of 100 patients tested for the hemolytic reaction to both human and fowl blood corpuscles. Also in a series of 50 tested with less concentrated suspensions. The results confirm the differential importance of the isolysin tests for the diagnosis of cancer. His experience includes also a series of 600 cases in which the test was applied similarly to the first series of 600 reported in 1907 and with similar findings. In conclusion he tabulates the parallel findings with the hemolytic and the complement-binding tests in 200 cases. No reaction was apparent in 96 cases of ulcer, neurosis, gastritis, gall-stones, gastrointestinal catarrh or anemia, while one or the other or both were positive in all but 4 of the 78 cases of carcinoma, all but 2 in the digestive tract.

139. **Affections of the Esophagus.**—In this communication from Kienböck's radiologic institute at Vienna, 13 cases of an affection of the esophagus are reported with the autopsy findings in some and the lessons learned therefrom. In some cases a primary diverticulum induced secondarily spastic closure of the cardia. In others a large diverticulum existed but the periodical recurrence of the disturbances in swallowing showed that the diverticulum was not directly responsible for them. It is evident that the decomposition of the food lodged in the diverticulum irritated the mucosa and thus was the indirect cause of closure of the cardia. In some cases of idiopathic dilatation of the esophagus the rinsing out of the esophagus did not banish all the disturbances, especially the spasm, until it was supplemented by administration of atropin. When the rinsing out the esophagus cures in such cases, the vagus is manifestly not responsible for the disturbances; a local pathologic condition of the mucosa of the esophagus is inducing the spasm. On the other hand, when there are signs of a neuritis or neurosis of the vagus, or compression or atrophy of this nerve, this alone suffices to explain the spasm, contraction or paralysis interfering with the act of swallowing, and atropin will benefit and possibly cure.

Zentralblatt für Chirurgie, Leipsic

September 25, XXXVI, No. 39, pp. 1345-1376

140 *Femoral Hernia. (Zur Radikaloperation des Schenkelbruches.) H. Hans.
141 Technic for Gastroenterostomy. R. Lenzmann.
142 *Resection of Middle Duodenum. W. Kausch.

140. **Radical Operation of Large Femoral Hernia.**—Hans gives an illustrated description of a method of wire fixation which has proved extremely useful for very large femoral hernias. Poupart's ligament is changed from a flat to a vertical plane and Gimbernat's ligament is strengthened and spread by two stout silver wires, forming a triangle, which embraces the bone and forms a solid support, the ends being sunk in the bone. This technic has the advantages of the Roux method of nailing the ligament to the pubis with a silver double pointed nail, while it does not have the drawback of this, namely, that the nail works loose in time.

142. **Resection of Middle Duodenum.**—Kausch has been much pleased with the results of operating on the duodenum in two sittings, as in a case of cancer of the papilla reported. The first step is merely an anterior cholecystotomy with enteroanastomosis; this relieves the patient and frees him from jaundice. Two months later the radical operation follows, mobilization of the duodenum, posterior gastroenterostomy and resection of the duodenum, first closing the pylorus, then ligating the common bile duct, then cutting the pancreas, including its duct, but without ligation of the latter, then severing the duodenum. The oral stump of the duodenum is then drawn over the cut surface of the pancreas like a cap and sutured there. The ligated end of the bile duct is also drawn into the lumen. By this means the pancreas secretion and discharge from the cut surface all flow into the intestine, and the method permits extensive resection of duodenum, pancreas and bile duct. In the case reported, the patient stood the four-hour operation well and made a smooth recovery, although stomach content, bile and pancreatic juice escaped from the drain for about seventeen days.

Zentralblatt für Gynäkologie, Leipsic

September 25, XXXIII, No. 39, pp. 1353-1384

143 Protecting Action of Normal Serum Against Effect of Human Placenta Juice in Rabbits. (Schutzeffekte normaler Sera gegen die Wirkung menschlichen Placentasaftes beim Kaninchen.) F. Schenk.
144 Snare for Intrauterine Exploratory Excision. (Zur intrauterinen Probeexzision.) V. Frommer.
145 Gauge for Internal Measurement of the Pelvis. (Ein technischer Versuch zur inneren Beckenmessung.) O. Orth.

Gazzetta degli Ospedali, Milan

September 21, XXX, No. 113, pp. 1193-1200

146 *Suprarenal Treatment of Uncontrollable Vomiting of Pregnancy. (Iperemesis gravidarum e terapia adrenalinica.) S. Rebaudi.

September 23, No. 114, pp. 1201-1208

147 Bile Enrichment of Typhoid Bacilli from the Blood. (Sulla coltivazione del bacillo del tifo dal sangue per mezzo dell' arricchimento in bile.) A. Ori.

September 26, No. 115, pp. 1209-1224

148 Displacement of Apex Beat with Mitral Defect. (Impulso da cardiaco invertito in un caso di doppio vizio mitralico.) U. Deganello.

146. **Vomiting of Pregnancy and Suprarenal Treatment.**—Rebaudi writes from Bossi's clinic at Genoa to call attention to the remarkable effect of a few cubic centimeters of a solution of the juice from the capsule of the suprarenals in promptly arresting previously uncontrollable vomiting. The patient was a young woman at the third month of her second pregnancy dangerously debilitated from the almost incessant vomiting. All other treatment was suspended except the nutrient enemas, and 10 drops of 1 to 1,000 adrenalin solution were given morning and night, at first in an enema of 150 gm. water with 20 drops of laudanum, after three days in ice water by the mouth. The vomiting ceased by the second day and by the third the patient was able to retain a little food. On the eleventh day the dose was reduced to 10 drops a day, and this was kept up for nine more days. Toward the end of the pregnancy there was a recurrence of tendency to nausea and 10 drops of the adrenalin solution were given for five days, during which the tendency subsided and a well-developed child was delivered at term and is now growing normally.

Policlinico, Rome

September 26, XVI, No. 39, pp. 1221-1252

149 *Tuberculin Treatment of Pulmonary Tuberculosis. (Tubercolino-terapia.) G. Basile.
150 *Acute Poliomyelitis and Measles. (Poliomielite acuta anteriore e morbillo.) V. Barbieri.

149. **Tuberculin Treatment of Pulmonary Tuberculosis.**—Basile was obliged to discontinue the tuberculin treatment in the three cases reported, as it seemed to be doing harm instead of good, after a thorough trial according to the most approved technic.

150. **Poliomyelitis Following Measles.**—Barbieri's patient was a boy of 7, who ten days after recovery from an apparently ordinary attack of measles developed signs of atrophic infantile paralysis or acute anterior poliomyelitis. All the limbs were simultaneously affected, and the paralysis reached its height by the end of a few months. It has persisted practically unmodified during the two years since. No cause can be assigned except the preceding measles.

Riforma Medica, Naples

September 27, XXV, No. 39, pp. 1065-1092

151 *Malta Fever. (Febbri e febbricole setticemiche da micrococco di Bruce. VIII.) G. Rummo.
152 *Reaction to Differentiate Exudation from Transudate. (Nuova reazione per differenziare gli essudati dai transudati.) S. Gangi.

151. **Malta Fever.**—Rummo describes the characteristics of this disease, mentioning that the incubation may vary from three to fifteen days or more, while the disease may last for a few weeks to several months or even years, though early complete recovery is the rule. There is no special type of fever, and the disease can be differentiated from paratyphoid or an atypical typhoid, he asserts, only by the seroreaction. The micrococcus has been found in the blood in 80 per cent. of the cases.

152. **Differentiation Between Exudates and Transudates.**—Gangi describes a test which he has found simple and reliable for this purpose. It is based on Heller's test for albumin in the urine: In a test tube containing 2 or 3 c.c. of hydrochloric acid, 3 or 4 c.c. of the fluid to be examined is allowed to flow down the side. In the presence of an exudate a white cloud appears and forms a ring at the zone of contact between the two liquids. From the upper surface of this ring white clouds gather and rise, similar to the puff of smoke that rises when a lighted cigarette is struck lightly. These clouds gather to form a zone at first at the surface but then gradually sinking somewhat below the surface of the fluid in the test-tube, with a zone of limpid fluid above and below them down to the white ring. The ring gradually increases in width and density and finally clings to the walls of the test-tube and bubbles of gas are observed. With a transudate, on the other hand, the ring at the zone of contact is small and narrow and the fluid above persists limpid throughout, or there may be no ring; after a period of turbidity the fluid mixes with the acid below and forms a homogeneous turbid brownish fluid. He discusses the mechanism of this reaction, suggesting that the presence of proteids does not explain it entirely and that certain products of bacterial metabolism may also be involved.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Medical Communications of the Massachusetts Medical Society. Vol. XXI, No. 11, 1909. Paper. Pp. 66.

The Medical Directory of New York, New Jersey and Connecticut. Volume XI. Cloth. Pp. 855. Price, $2.50. Published by The Medical Society of the State of New York. 1909.

Studies in Immunity. By Prof. Jules Bordet, Professor of Bacteriology [illegible] and his Collaborators. Collected and [illegible] A.B., M.D., Instructor in Pathology. [illegible] First Edition. Cloth. Pp. 529. Pri[illegible] & Sons, 1909.

Radiation, Light and Illumination. A Series of Engineering Lectures Delivered at Union College. By Charles Proteus Steinmetz, A.M., Ph.D. Compiled and Edited by Joseph LeRoy Hayden. Cloth. Pp. 288, with illustrations. Price, $3. New York: McGraw-Hill Book Co., 1909.

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Original Articles

BACTERIAL EXAMINATION OF THE STOOLS IN SUSPECTED CANCER OF THE STOMACH *

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It is surprising that the facts presented by Rudolf Schmidt from Neusser's clinic in 1906 regarding the presence of the Boas-Oppler bacilli in the stools in cancer of the stomach has attracted so little attention in view both of Schmidt's well-known standing and the expressed conviction of Neusser as to the significance of the finding. Schmidt showed the following fact: The bacterial examination of the stools by Gram's stain under normal conditions gave a picture of very few organisms, the Gram-negative colon group vastly outnumbering any Gram-positive organisms. The normal stool Schmidt called Gram-negative. A stool that with Gram's method showed uniform-sized bacilli far outnumbering all other organisms he regarded as Gram-positive. Occasionally a stool was found in which Gram-staining organisms in great varieties outnumbered other organisms; these organisms were chiefly cocci and non-uniform bacilli which he differentiated in a manner to be referred to later. They are not Gram-positive in the sense that the predominating organism is a well-staining uniform bacillus. Schmidt takes the ground that Boas-Oppler bacilli are vastly more easily found in the stools than in the gastric contents, which is quite true, and he believes that if the morphologic characteristics of the Boas-Oppler bacilli are determined in differentiating them, their relation to cancer becomes of greater significance. He has stated, as have a great many other observers who have followed the matter carefully, that many organisms have been mistaken for the Boas-Oppler bacilli. This has served to put the relation of the Boas-Oppler organism to cancer in considerable doubt. While not contending that the occurrence of the organism is characteristic of cancer, Schmidt points out how easily the organism is mistaken for certain other bacilli. Every one who has studied this question at all will admit at once that our diagnosis of Boas-Oppler bacilli is made on very insufficient grounds, when one considers the care that Schmidt has exercised in differentiating them. Certainly hereafter all the deductions about the relation of the organism to cancer must be made on an absolute determination of what is the Boas-Oppler bacillus.

In a study of a large series of cases from Neusser's clinic and from the subsequent reports by a few other observers, the following deductions may be made:

1. A typical Gram-positive stool may occur in:
   Primary cancer of stomach.
   Ulcer of stomach (Elliott. Not confirmed at operation or autopsy).
   Typhoid (Neusser).
   Cancer of the uterus with emaciation and cachexia (Neusser).
2. "Gram-negative stools exclude cancer of the stomach" (Neusser).

Elliott, however, found a secondary cancer of the splenic region with a Gram-negative stool, and one other gastric cancer with uremia and excessive vomiting, also with a Gram-negative stool.

My own findings thus far in a series of cases of cancer of the stomach in which the diagnosis was confirmed at operation or autopsy have failed to show any cases in which the stool was other than Gram-positive, and in no case of acute or chronic ulcer has the stool been other than Gram-negative, on repeated examinations.

The most interest, however, centers about four cases in which a diagnosis of gastric ulcer was made on account of the clinical history, pain, lack of cachexia and the presence of free hydrochloric acid in the stomach. Although the bacteriologic examination of the stool had been made in each case, its importance was not held to be sufficient to warrant its being weighed in the evidence. In each case an operation was performed and the diagnosis made clinically as follows:

CASE 1.—Clinical diagnosis, ulcer of stomach at pylorus. Operation, extirpation of pylorus. Microscopic examination: diagnosis, malignant degeneration of ulcer in the pyloric opening.

CASE 2.—Clinical diagnosis, ulcer of stomach. Operation, gastroenterostomy. Death from hemorrhage. Diagnosis at autopsy, malignant degeneration of ulcer of the lesser curvature near pylorus.

CASE 3.—Clinical diagnosis of multiple ulcer with uncontrollable hemorrhage. Operation, gastroenterostomy; revealed extensive secondary cancer, a primary tumor in the gall- bladder, stomach wall involved in several places. Diagnosis confirmed at autopsy.

CASE 4.—Clinical diagnosis of ulcer of the pylorus. Operation, pylorectomy. Several areas of cancerous degeneration in large ulcer at pylorus.

I have not entered into detail in these cases as to the ground for clinical diagnosis of ulcer of the stomach. I believe in each case that such a diagnosis was entirely justifiable in the light of the symptoms. The significant point of it is the great importance that was apparently attached to the one symptom that was not weighed with the others. Personally, I should continue the bacteriologic examination of the stools in doubtful cases with very much more interest than before, for not only is the early diagnosis of cancer a matter of the utmost importance, but one can not fail to be impressed with the extraordinary reports of the Mayos as to the frequency with which cancerous degeneration of ulcer occurs.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Schmidt's technic is as follows:

Make thin smears.

Dry and fix five minutes in methyl alcohol (thus dissolving also fat).

Stain five minutes in anilin-oil-gentian-violet; wash.

Iodin-potassium-iodid solution till deep purple; wash.

Decolorize in 95 per cent. alcohol till nearly colorless; wash.

Stain in weak aqueous solution of fuchsin; wash; dry; mount.

In considering the difficulties in recognizing the Boas-Oppler bacilli, Schmidt calls attention to the following types:

1. Lactic acid bacillus type; these organisms are thinner than the colon group, vary greatly in length, show no spore formation, are non-motile, show areas of Gram-negative stain, stain yellow with Lugol solution and show granules in the protoplasm. All characteristics are identical with the bacilli found in the coffee-ground vomitus of cancer of the stomach.
2. Pseudo-colon group; these have the same morphology as the Gram-negative colon group, except that they are Gram-positive and non-cultivable. They occur in catarrh of the bowel, especially with acid stools.
3. Gram-positive bacilli, thicker than the Boas-Oppler and occurring in long chains, staining blue with Lugol solution, non-cultivable; occurring in chronic catarrh of the lower bowel, especially when atony and flatulence are present.
4. Emerson says that "some passing under this name (i. e., Boas-Oppler), are surely the gas bacillus."
5. It seems probable that the common *bacillus subtilis* is often mistaken for the Boas-Oppler, especially in stained specimens of stomach contents.

350 Post Street.

ABSTRACT OF DISCUSSION

Dr. Herman B. Allyn, Philadelphia: Do the bacilli which are Gram-positive appear early in the stools in cancer of the stomach?

Dr. Allen A. Jones, Buffalo: Has Dr. Brown found the Oppler-Boas bacilli in the gastric contents in those cases in which the bacilli were Gram-positive in the stools? If so, did the cases prove later to be gastric cancer?

Dr. Anthony Bassler, New York: I have also observed the Boas-Oppler bacilli in the stools in some instances of gastric carcinoma. Recently I have been interested in making slides from the back of the tongue and throat in stomach cases. While in vomiting they are often found in the mouth, lately I saw a case in which there was no vomiting, but the organisms were found in large numbers, probably having been carried up by the eructations that were present.

Dr. Philip King Brown, San Francisco: I found these bacilli in the stools early in cases of cancer. In four cases in particular in which diagnosis of ulcer was considered the most probable one, they were evident. If these bacilli are Gram-positive, they should make one suspicious of cancer of the stomach. I did not look for them in the gastric contents. In the four cases attended with Gram-positive findings, the diagnosis was confirmed finally at autopsy or at operation.

Bacteria in Pasteurized Milk.—M. J. Rosenau, in *Annals of Medical Practice,* states that pasteurized milk must be handled with the same care as raw milk, if not with greater. Pathogenic bacteria grow more readily in milk which has been heated than in raw milk. The germicidal properties of the milk are destroyed by high heating, and finally the surviving bacteria do not have so hard a struggle for existence in the heated milk. It must not be forgotten that pasteurization kills only the major portion of the non-spore-bearing bacteria, and that a large number of micro-organisms remain, and, if permitted to grow and multiply, they may occasionally produce undesirable qualities or perhaps poisonous properties in the milk

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AMEBIC DYSENTERY *

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Dysentery has been known as an independent malady of widespread and almost universal distribution since the most remote period of time. In the very earliest writings on medicine references may be found to the disease, and the part it has played through the ages, especially in connection with the fatalities of army life, has left an impress on the historical records of nearly every nation. It is only within what might be called modern times, however, that a step has been made toward the closer analysis and classification of the disease. The differentiation of the old-time bloody flux, with its confused clinical picture, into the two clearly defined types identified to-day under the names of amebic and bacillary dysentery, has been the result of investigations entered upon only within the past half-century.

HISTORY

Lambl, in 1859, was in fact the first to offer the suggestion of a possible specific cause for dysentery. In the course of a routine examination of the intestinal mucus of a child who had died of enteritis he ran across an ameboid body, probably a flagellate, which impressed him as a possible factor in the inflammatory process. This observation did not, however, seem to create much comment at the time and no further investigation was made in this direction until 1875, when Loesch was able to identify probably the first true amebæ in the dejecta of a characteristic case of dysentery, originating in St. Petersburg. Eleven years later Kartulis, working in Egypt, always a hotbed of dysentery, reported 150 cases from that country, in all of which he found the ameba. Subsequently he noted the same organism in liver abscesses. Koch had, however, three years before, demonstrated amebæ in sections from an ulcerated bowel, showing a direct causal relationship between the parasite and the intestinal lesion.

In this country the first amebæ discovered were by Osler, in 1890. Shortly afterward, confirmation came from various sources. Within one year Stengel found 3 cases of true amebic dysentery in Philadelphia and Musser 4 from the same city, while Dock was able to report 12 cases of the acute and chronic types from Galveston, the first to be recorded from the far South. The disease has subsequently been found to exist, scattered over many other sections of this country, and, in fact, in nearly all parts of the world sporadic cases crop out occasionally, apparently of purely indigenous origin. Even in such northern latitudes as Germany, England, Japan, or even Russia, there come reports at times of its occurrence; but the disease is essentially a tropical or semitropical one and prevails more extensively in warm climates, in connection usually with a low-lying or poorly drained soil.

In certain regions of the South, including a comparatively large area of our country, conditions are almost ideal for the prevalence of an amebic infection. It is only within very recent years, however, that its occurrence in the South, in wide-spread endemic form, has come to be suspected, and even to-day the question is scarcely regarded by the profession in a light at all befitting its high importance. In spite of the frequent case-reports from Southern observers, the impression has nevertheless seemed to persist in part that the disease is of rare occurrence in the United States and that the relatively few instances which find their way into print might be traced to a previous residence in the tropics. This impression should no longer be allowed to go unchallenged. As far at least as the South is concerned nothing could be falser. The disease, it should be insisted on with the greatest possible emphasis, does find a home ideal for its existence and dissemination in the semitropical environment of the South, is and has been for years widely prevalent there, though unfortunately masked all too frequently under the vague and generalized term of simple chronic diarrhea, or some such indefinite diagnosis.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Of the truth of these facts there can be found testimony sufficiently suggestive in the various scattered case reports of Southern observers, such as Harris from Atlanta, Jelks from Memphis, Wilson from Birmingham, Wasdin from Charleston, Dock from Galveston, Slaughter from Virginia, and many others. As a further contribution to this array of evidence I wish to offer an additional group of 50 cases from New Orleans, which I have been able to collect during the past two years, partly from my own records and partly from those of my colleagues with whom I am associated in the hospitals. These few cases, I need only remark, serve merely an an index to the prevalence of the amebic dysentery in our particular section and do not in any way begin to cover the field. On the contrary, I am convinced that, were the full facts known, as they should be, the number of cases at present unrecognized and overlooked in all parts of the South would be found to foot into the many hundreds. In fact, the tardy recognition accorded this wide-spread amebic infection bears a faint resemblance to the history of the hookworm disease in the South. Before Stiles' epoch-making discovery, thousands of hookworm sufferers, as we now know, dragged out a miserable existence, weighted down in most instances under a false diagnosis.

In part extenuation of this hesitancy and failure in recognition, the extremely variable and capricious symptom picture of amebic dysentery, it is true, makes a purely bedside diagnosis uncertain, and may even tend to disarm an ordinary suspicion of its existence. The term "dysentery" has come to be associated in our minds with such classical symptoms as an outspoken tenesmus, small, frequent and liquid evacuation, containing blood and mucus, all running a more or less rapid and acute course. This clinical picture, however, could scarcely be used as a descriptive one for the so-called dysentery of amebic origin. In the first place, this condition is practically always chronic, in the sense of a protracted infection, and the acute types occasionally met may be looked on as mere exacerbations. The number of years the infection might exist in latent form, or, if established, remain unrecognized, is very variable and depends largely on the ability of the physician in making the diagnosis.

Among my series of 50 cases, in one the disease could be traced back twelve years, in another eight years, in 2 instances six years, and in 5 cases the condition had been present two years at the time of the first consultation. The average duration of the cases was about nine months.

The symptoms of amebic dysentery, as I have said, are not always clearly defined and constant. During its course there are quiescent periods, when apparently all trace of the trouble has vanished. The bowels might even become obstinately constipated. The amebæ remain, however, constantly under cover during this time, the infection suddenly flaring out again under conditions favoring renewed activity. These occasional attacks of diarrhea, alternating with periods of normal evacuations or constipation, make up a very suggestive picture of an amebiasis, and when present should lead to an immediate examination of the stools for the amebæ.

When attacks of diarrhea do occur, the number and character of the evacuations do not follow any set rule. A great deal depends on the location of the ulcers. If low down, and especially if in the rectum, the evacuations are usually frequent and a marked tenesmus, with soreness of the lower bowel, is noted. If the main lesions are above the sigmoid, as they most frequently are, the number of stools may never average above two to three per day. Mucus may or may not be present, but commonly is. Pure blood, or a blood-streaked mucus, I have found to be fairly constant, though at times in only small amounts. In one of my fatal cases, with liver abscess as a complication, the patient suffered severe hemorrhages, a symptom which, according to Strong, is always suggestive of abscess.

As far as the influence of age is concerned, the average in my cases was 37 years. This is in line with the usual figures given. The oldest of my patients was 60 and the youngest 22. The disease is rare among children, the dysenteric infections in early life being mostly of the bacillary type.

The colored race does not figure largely in my series, in which there were 42 whites and only 8 negroes. This, from a Southern city, in a non-selected field, is suggestive, as showing the relative infrequency of the disease among the blacks. Again, only 6 of the 50 patients were females, thus exhibiting a large preponderance of males affected. Occupation and the greater exposure of males to infection in general would, I believe, sufficiently explain this difference. Among my cases 25 were common laborers, 3 were farmers, 4 merchants, 2 bakers and 1 was a rabbi.

In the determination of the prevalence and endemicity of the disease in a particular locality, the nativity and immediate residence of the patients become of importance. Fifty per cent. of the patients I observed were born in Louisiana and had never lived in any other state or country, while an additional 14 per cent. had resided in Louisiana five years prior to the onset of the disease. In only two instances could the infection be traced definitely to the tropics. The remainder all came from neighboring Southern states. These figures, I believe, require no further comment in refutation of the views sometimes held that amebic dysentery rarely originates in this country and—more especially to the point—in the South.

The prognosis and, in a sense, the curability of this, as of other diseases, is largely determined by the period of its recognition. In a general way it may be said that the longer the infection has continued the greater probability there is of serious complication. Seventeen, or 28 per cent., of the fifty patients whose cases I have tabulated died. In 15 of these the cause of death was determined accurately by post-mortem. Extensive ulceration of the large bowel was found in practically all, but in nine instances this was found to be the sole cause of the fatal termination. Perforation was observed in but one case.

Six cases of abscess of the liver were recorded in these autopsy records, 5 solitary and 1 multiple. This complication is always an important and serious one. Figures differ, however, as to its frequency. In Futcher's cases, liver abscess was diagnosed in 22 per cent., in Craig's 33 per cent., and in Harris' only 15 per cent. All agree as to the infrequency of this condition in the female sex. All my patients were males. There is one point in connection with amebic liver abscess which I believe should be emphasized. The condition is looked for in the amebic infected districts all too rarely. The diagnostic puncture of the liver is always a simple procedure and is attended with practically no danger. Since the symptoms of an abscess are often so uncertain, the use of the aspirator is indicated when the merest grounds for suspicion are present. Only thus may a serious and often irretrievable oversight be avoided.

When we step now from the discussion of the purely clinical aspect of the amebic infections to a consideration of the organism itself, another chapter of almost equal importance spreads itself before us. The studies of recent years into the biologic and morphologic properties of the ameba have had, in fact, a highly important bearing on the solution of many of the hitherto vexed problems of the disease. Of these problems the principal have hinged on the question of the actual pathogenicity of the ameba to man, as well as on the separation, if such were possible, of a harmless from a disease-producing variety. It has been the lack of just such a differentiation in the past which has occasioned the degree of confusion in diagnosis and brought about the frequent false and contradictory reports in regard to the treatment. The earlier investigators recognized but one type of parasite, which, because of its connection with colonic infection, accidental or otherwise, they termed *Amœba coli* (Loesch). In 1891 Councilman and Lafleur, in their splendid studies, proposed that this name be dropped and that of *Amœba dysenteriæ* be substituted, since they believed that they had established a definite causal relationship between the ameba and the dysenteric lesions. They also hinted at the possibility of a non-pathogenic organism, for which the old term *Amœba coli,* they thought, might hold. Subsequently, several other forms of nomenclature were suggested, but it remained for Schaudinn, in 1903, following closely upon Jurgen's work, to announce the first definite and scientific classification of the amebæ. He retained the term *Entamœba,* previously suggested by Casigrandi, as the proper designation for the particular genus invading the intestine, but drew a sharp line of distinction between a type found pathogenic to man and cats, which he named *Entamœba histolytica* and a non-pathogenic, which he termed *Entamœba coli.*

Schaudinn's classification and conclusions have now been fully confirmed by the majority of competent observers, with the notable exception of Musgrave and Clegg, who still maintain that there is insufficient grounds for such a differentiation. The more recent, exhaustive studies of Craig, Viereck, Flexner and others leave little justification, however, for further doubt.

The two forms have many points of difference, both structural and bionomic, which allows of an easy differentiation between them.

This holds for native as well as stained preparations. I have found the Wright stain, as recommended by Craig, satisfactory.

Now that pure cultures of the *Entamœba histolytica* in guinea-pig serum has been found possible without symbiosis, a further insight into the life-history of this organism and its behavior under various conditions might be hoped for.

The question of the distribution of the *Entamœba coli* over the various regions of the world, as well as the proportion of healthy individuals infected with this apparently harmless parasite, are points which in part still remain open for further investigation and study. According to Craig, 71 per cent. of healthy individuals in the Philippines are found to harbor this organism, while the stools of 65 per cent. of the active soldiers stationed in San Francisco were likewise found infected. Schaudinn's figures, along the same line, average 50 per cent. for West Prussia, 20 per cent. for Berlin and 66 per cent. for those examined in the neighborhood of the Adriatic Sea. Dock, however, examined 200 normal subjects in Michigan and found the *Entamœba coli* in but two, or 1 per cent., of the whole. My own experiences in New Orleans, while not as yet based on a large or systematic scale in this field have indicated at least the relative infrequency of the *Entamœba coli* in Louisiana. The association of the harmless with the pathogenic type seems to be the rule in the Philippines; but I am yet to see an instance of this in our section.

In a large proportion of the stools I examined, however, *Cercomonas hominis* were found and in five of my cases I noted the *Strongyloides stercoralis* in connection with the *Entamœba histolytica.* Noe has recently called attention to this point and asserts that the so-called Cochin-China diarrhea, which was formerly thought to be solely due to a strongyloides infection, is in reality amebic dysentery, which in China is frequently complicated by the presence of the strongyloides worm.

TREATMENT

While substantial progress has been made, as we have seen, during the past half-century in almost every department of the subject of amebic dysentery, the matter of treatment still remains in almost as unsettled and undetermined state as before. There appears to be little chance, even to-day, with our advanced conceptions of the many phases of the disease and its problems for any unity of opinion as to the proper methods of its control. In the past, empiricism has been the sole guide and unfortunately holds sway to a great extent down to the present time. Every clinician would seem to hold individual ideas of the proper methods of treatment and those, too, largely irrespective of the experiences of others.

For hundreds of years ipecacuanha has been held in the highest esteem, above all other remedies, in East India and neighboring Oriental countries. This drug thus has at least the authority of longest usage and even to-day is regarded in Indian practice as almost a *sine qua non* in the treatment of amebic dysentery. Contrasted with this experience, however, there is a mass of contradictory testimony from other sources in which ipecac has seemingly been found totally inadequate. The experience of our army officers in the Philippines, for example, has always appeared particularly unfavorable to the use of ipecac. Strong, in his recent article in "Modern Medicine," discusses the ipecac treatment with a bare word, stating that the drug is "in no sense curative." Jackson is even more outspoken in his opposition. He says, in regard to this remedy, that he "has seen it thoroughly tried and is convinced of its utter uselessness and also of its harmfulness." From other countries, equally unfavorable experiences are recorded from time to time in the literature. Manson, however, always a great enthusiast in regard to the ipecac treatment, in his latest utterances on the subject, again puts forth a plea with his brethren in other lands, for another trial of this drug. Impressed with the weight of such high authority, and especially when born of so large an experience, I have ventured to employ ipecac in my cases during the past two years and am ready to acknowledge now my thorough conversion to the sanguine views of Manson and other English authorities in the tropics.

The detailed method of its administration is, I believe, of the greatest importance, the lack of which stands as explanation in part for the failures reported in some quarters. First of all, the drug should be administered only in pill form, coated to the extent of about an eighth of an inch with phenyl salicylate (salol). The patient must be put to bed for the first two weeks' treatment and his diet restricted to liquids or, at most, light solids. This absolute rest in bed, with restricted diet, is particularly essential to the details of the plan. Castor-oil may be given as an initial purgative and then each evening, after a three hours' fast, the pills coated with phenyl salicylate are administered. A start may be made with 40 or 60 grains, depending on the length or severity of the infection, but each subsequent evening the dose is reduced 5 grains, until the limit of 10 grains is reached. Following this, I have been in the habit of continuing with 10 grains each day for the next two weeks.

The use of the drug in this way has appeared to me almost in the light of a specific. Under its influence the stools become diarrheic, soft and pultaceous and the amebas seem to vanish almost at once, even though careful search be made for them. Opium is no longer required to prevent nausea or vomiting, if ordinary care be taken to have the pills well coated with phenyl salicylate.

The *modus operandi* of ipecac, which might account for the success following its administration, has never been satisfactorily explained. There is certainly nothing in the known physiologic effects of the drug which would suggest an explanation of its efficiency in this particular field. It seems plausible to infer, however, that ipecacuanha principles, through some intestinal changes, become inimical to the life of the amebas.

Bowel flushes, on which almost exclusive reliance is placed in some quarters, may or may not be employed in connection with the ipecac treatment. I prefer to make use of irrigations, however, principally as a means of washing away débris from the ulcerated bowel and begin with this procedure usually after the ipecac has been brought down to the limit of 10 grains per day. The character of the solution is not of great importance, so long as a sufficient quantity of water for thorough cleansing of the bowel is employed. Before my success with ipecac I had found all forms of solutions unsatisfactory. I believe simple saline solution fulfills the full requirements as a bland non-irritant bowel wash. As an after-treatment, nitrate of silver solutions may be indicated as a curative agent for the still remaining ulcerations.

What shall be said, finally, in regard to surgical intervention in intractable forms of the disease? The comparatively simple operation of appendicostomy, which, if properly performed, it is asserted, will permit a more satisfactory flushing of the large bowel, has found many advocates in this country in recent years. Its rationale, however, is not quite as clear as some enthusiasts of the plan would have us believe, and it is wise that the whole question be allowed to remain open for more extended trial and investigation.

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ABSTRACT OF DISCUSSION

Dr. Thomas B. Futcher, Baltimore: In 1903, at the New Orleans Session of the American Medical Association, I analyzed our experience at the Johns Hopkins Hospital with cases of this disease during fourteen years, since the hospital was opened. At that time, there had been 119 cases of amebic dysentery in the wards. It was interesting to note that being not far north of the Mason and Dixon line, 95 of the 119 patients had never been out of the state of Maryland, and that the infection, therefore, must have been contracted there. The most important complication of the disease, of course, is amebic abscess of the liver. Among the 119 cases there were 27, or 22.6 per cent., amebic abscesses; 9 of these abscesses ruptured into the lung causing pulmonary abscess. One of these subsequently ruptured into the pleural sac, producing a pyopneumothorax; 3 of them had empyema. In 3 of the liver abscess cases the inferior vena cava was invaded. One case had a remarkable result; the abscess ruptured into the vena cava and there occurred a thrombus extending into the right auricle. This case has already been reported by Dr. Flexner. It is surprising, when we consider the extent and depth of the ulcers in this disease, that there are not more intestinal hemorrhages than do occur. There were but three instances of severe hemorrhage in our series of cases; all these had a fatal termination. There were 3 cases of perforation of the bowel, with a resulting peritonitis. One was recognized early and the patient was operated on, but died. There was one case in the wards in which an abscess was found in the floor of the mouth. The pus from the abscess contained ameba. This case has also been reported by Dr. Flexner. I wish to emphasize Dr. Simon's statement regarding the prevalence of the disease; I believe that it is of more frequent occurrence than is supposed. This disease can only be recognized by a most careful and systematic examination of the stools. There was one patient who came into the wards at Johns Hopkins four years ago suffering from diarrhea, in whom examinations of the stools gave negative results. Recently he again returned to the hospital and amebas were found in the stools. I have no doubt but that four years ago he had amebic dysentery. A careful and systematic examination of the stools should always be made, not once, but repeatedly. With reference to the operation of appendicostomy, that is, suturing the amputated appendix in the abdominal wound and irrigating the colon through this fistula, I would say that the results with us, so far, have been unsatisfactory, although our experience is limited. One man had appendicostomy performed Sept. 9, 1907; until April 14 of the following year, 1908, he had had daily irrigations of quinin solution, 1 to 500, and occasionally of nitrate of silver solutions, and of peroxid of hydrogen, etc. Only one month before he left the hospital did the amebas disappear from the stools. I have not been able to follow him since. This was certainly not a satisfactory result. There have been two other cases in the hospital in which appendicostomy has been performed without having given what we consider satisfactory results. Since Dr. Dock reported at this year's meeting of the Association of Tropical Medicine in Washington the results of the use of ipecac, Dr. Barker has employed it in two cases in his wards. Dr. Boggs told me yesterday that after the first dose a most thorough examination of the stools failed to reveal amebas. This is a remarkable result. I feel that the ipecac treatment ought to be given a thorough trial, so that we can see whether the results obtained are more satisfactory than are gotten by other methods. The ipecac is given in salol-covered pills, 20 grains to the dose, three times a day. Dr. Dock states that it may be given in smaller doses at shorter intervals, aggregating from 60 to 80 grains in twenty-four hours.

Dr. George Dock, New Orleans: The importance of the subject that Dr. Simon has brought up is realized by everybody who comes in contact with cases of chronic diarrhea. The geographical distribution of dysentery is certainly great; south of the latitude of Louisville, Ky., it is a very common disease. I reported a case occurring in the lower portion of Michigan in 1902. After that I discovered another case in northern Michigan; this patient had never been out of the county in which he lived. So the disease should be looked for wherever there is any chronic disturbance of the intestines. It is important for us to remember that a patient with chronic dysentery, true amebic dysentery, does not have the classical symptoms of dysentery all the time. The stools may appear normal for long periods of time. I should like to speak of some of the practical details in examining the stools of these patients. Ordinarily, it is easy to have a patient pass a stool at command. An examination of a stool with the naked eye is often unsatisfactory. Even an examination by the microscope may be negative. Therefore, in a negative case we should never be satisfied with a single examination or even with repeated examinations of ordinary stools. The next thing to do is to examine by rectum with a tube or speculum. t is better to pass the tube or speculum into the rectum; o use no grease on it, because it interferes with the examination. By working the instrument around, it will enter and sometimes we can get very positive information. If this examination should be negative, I think it is essential to give the patient a dose of salts, say Carlsbad salts, in order to produce watery stools. It is easy to understand by an examination of the intestine how a stool can be passed without amebas with it. The amebas lie in the abscesses or in the ulcers along the wall of the intestines and the stool passes by without mixing them in. I recall an interesting and instructive experience I had with a case that was diagnosed as amebic dysentery from the symptoms, yet was unable to find the amebas when the patient had a natural stool. A rectal tube was passed, but the patient complained so that it had to be removed. I then passed my finger into the rectum and got a lot of stuff which was filled with amebas. Why they were not forced out before I could only surmise. In the examination of the material it is not necessary to use a warm stage. Even in fairly cool weather the amebas keep up their activity for sometimes three or four hours. It is better, however, to examine them fresh; it is easier to detect them when they are lively. There is another point which I think should be mentioned. Beginners are easily led astray by the presence of large cells which they think are amebas. Red cells may be included in them. I have found people who had great difficulty in differentiating them.

I am glad that the success with the ipecac treatment has been confirmed by the results obtained in Dr. Barker's two cases. When we speak of results I must admit that many of the patients could not be followed up; so we could not be certain that they were entirely cured. Some patients have come back with the disease after weeks or months, four or five months, and we have not been able to find amebas, either with the aid of the rectal tube or speculum, or with the use of the Carlsbad salts. I recall the case of a man with the disease; he came from the Philippines and had been under treatment for two years; he had been given quinin, salicylic acid, etc. This patient was readily cured by the use of ipecac according to the method of Roberts. He was given 7 grams, or 105 grains, of ipecac in pills covered with salol. The amebas immediately disappeared from his stools. When he left the hospital I thought he might have a recurrence. He wrote me four years later and stated that he had "consumption." I supposed the amebic dysentery had returned with abscess of the liver, and I asked him to come back for examination. He returned and I found that he had tuberculosis. A very thorough examination of the stools failed to reveal any amebas. There were no signs of liver abscess. The failure of the operation of appendicostomy is what we should expect in some cases. The attempt to irrigate the colon through the cecum, washing downward, must fail in washing out the tube thoroughly. At all events, it would be well to try ipecac before resorting to an operation.

Dr. Hobart A. Hare, Philadelphia: I think that much interest in this discussion lies in the fact that thirty years ago Stillé taught his students to use ipecac at a time when they had no conception that amebas produced the disease. In May, I received a paper from Dr. Rogers of the Indian Medical Service practically repeating the facts already published in regard to the value of ipecac not only for the cure of dysentery but as a prophylactic against amebic abscess of the liver. The claims he makes for the prevention of hepatic complications by the employment of ipecac are so strong that, if his results are proved to be correct, the use of this agent should be resorted to in every case of amebic dysentery. The instances in which appendicostomy has proved of value constitute a class by themselves, a class in which the appendix acts as a focus of infection for the bowel. The cure does not follow from the irrigation used in the colon, but because it removes the focus of infection in the appendix. In a number of cases of so-called mucomembranous enteritis or colitis which seemed to be associated with neurasthenic conditions, I have seen the removal of the appendix result in a cure, simply because when the appendix was opened it was found to contain one or two drops of pus, and I have seen the physician in attendance disappointed because he thought the operation was going to be a failure so far as an ultimate cure was concerned, when in reality the removal of the infecting focus was exactly what was needed. And so in amebic cases, the appendix oozes out infection day by day. I am glad Dr. Dock spoke of the difficulty of irrigating the colon through the appendix; I am inclined to believe that this is no safe procedure. Some may remember that about twenty years ago experiments were made to determine just how much pressure the intestine could stand. It was proved that a pressure greater than that exercised by a fountain syringe placed twenty inches above the table was dangerous. This is the pressure we ordinarily get. This is more dangerous in a diseased gut, particularly when the lesions are ulcers the result of amebic infection. I agree that it is necessary to have proper technic in the use of ipecac. If not given properly it fails. Three or four surgeons returning to the United States from tropical countries have told me that this treatment only failed when the method of administration was erroneous. A very interesting point concerns the geographical distribution of the disease. Jefferson College Hospital is one of the largest in the country, more than 5,400 patients being admitted to the wards annually. There is a correspondingly large outdoor service. I have charge of these wards six months out of every year. I think I can remember but three cases of amebic dysentery occurring in the eighteen years that I have had charge of this service. We have a different service from that at the Johns Hopkins Hospital not only as regards dysentery, but as regards malaria, and yet we are only distant about one hundred miles. This difference is extraordinary. I am sure that the same conditions exist in other Philadelphia hospitals.

Dr. Hugo A. Freund, Detroit, Mich.: I can bear witness to Dr. Simon's statement about the widespread prevalence of dysentery. The cases are not necessarily endemic for it seems to me that they are coming from different portions of the globe. Last year I treated two cases of amebic dysentery that in some ways were of great interest. At the suggestion of Dr. Dock the first patient was treated with the salol-covered ipecac pills, 5 grains being given at a dose, and repeated every hour. But my method of administration differed somewhat from his. I first prepared the patient for medication. The first time the ipecac was given, 65 grains altogether, there was considerable diarrhea, tenesmus and pain. An examination of the stools the next morning, to my astonishment, revealed no amebas, nor could any forms resembling dead ones be found. For the next two weeks I gave the patient nothing but colonic irrigations; in addition the patient had rest, a soft diet, etc. In two weeks he was put through another course of ipecac, receiving a little more this time. All through there were no amebas in the stools, the patient experienced very little pain. In another week he was given 80 grains more of salol-covered ipecac pills. That was last November. Seven months have elapsed and the patient has gained in weight and feels very different since his infection. To all intent and purposes he is absolutely well. In this case the interesting feature was the degree of ulceration in the lower bowel which could easily be seen with the sigmoidoscope. These ulcers are entirely healed. His stools are normal in gross appearance and in the course of repeated examinations I have never found a sign of an ameba. The other patient was a young soldier from the Philippines. He received a typical course of treatment, being given large doses of salol-covered ipecac pills. This patient was also irrigated because I felt that some benefit would result from flushing the large bowel. He, too, is well. I am sure that there are other cases like this in different parts of the country as far north as Michigan, but we fail not only to recognize these cases, but also to treat the patients by what I believe to be the only satisfactory method, namely, administration of large doses of ipecac.

Dr. James P. Tuttle, New York: It is well to hear both sides of a subject such as this—the surgical as well as the medical. We who have had more experience in the local treatment of these conditions than those who have participated in the discussion thus far know that the results of local measures and of appendicostomy have been maligned here this afternoon; all our patients come to us for local measures and appendicostomies after failure to cure by medical measures alone. I have seen true amebic dysentery develop in people who had never been outside of a fifty-mile radius of New York City, and there is no longer any doubt that the disease is frequent high up in the temperate zones. A patient was sent to me for diagnosis who had been treated by physicians in Philadelphia, Baltimore, Richmond and New York. All these men had amebic dysentery in view, but they had failed to discover the amebas. I took the patient and made a very careful local examination and could only find some small scars in the rectum, apparently such scars as are seen after dysentery. I sent this patient to the hospital and placed him in the laboratory. He was given large doses of salts and was told to stay there until his bowels moved. He remained there five hours and yet there occurred no movement of the bowel. The next day this was repeated and we got a stool in which was a mass said to be about the size of the thumb nail, which was alive with motile amebas. The stools must be examined in a fresh state and warm; also every stool should be strained in order to get the little mucus flakes in which the amebas are found. The patient, mentioned by Dr. Fletcher, who was operated on at Johns Hopkins Hospital, and in whom the appendicostomy failed to cure, turned up afterward in my office. I followed this patient carefully. In the appendix I found a rubber tube which had become almost vulcanized from being left in too long, and which stuck down five inches into the cecum. There were ulcers around the end of the tube where it was pressing. I also found in the lower end of the rectum a number of ulcers, not amebic at all, but the result of mixed infections, which did not require amebic treatment. They required simply local treatment for the subsequent infection which had followed the amebic infection. This was a traumatic ulcer and cure resulted from simple local treatment. I disavow any desire to perform an appendicostomy on an individual with amebic dysentery until there has been tried Epsom salts, ipecac, local washings with quinin solutions, etc. I do not think it makes much difference what solution is used so long as the temperature is below 70 F. I am using a different method. I do not advise operation until I have tried local treatment. But when I fail with the use of the local treatment and the patient comes back again in four or five months and shows that I have not reached the seat of the amebic infection, then I may propose operation. Washing out the colon through the appendix is effectual; it gives no mortality, while the reader of the paper confesses to a mortality of 17 per cent. under medical treatment. Over 125 of these patients have been treated in New York City, with but one death. This patient died from acute miliary tuberculosis after an appendicostomy. Not less than twenty officers of the United States Army, treated with ipecac and other medicines, were not cured; they then said, if these agents fail, let us try appendicostomy and see if we cannot be cured. The trouble with so many appendicostomy operations is that the operation is not done as it should be; an infection occurs around the end of the appendix which, as a result, slips back into the abdomen. Another thing is that the opening is closed too quickly. In the United States Army men the openings are usually closed inside of three months. I never close them inside of six months, and in the majority of cases I leave them open permanently. The opening is a safety valve. It is easy to get a stool by running warm saline solution through the fistula. I only advise operation as a last resort. Recently I have had three patients with amebic dysentery. I treated them by administering a formalin solution, one dram to a quart of water; along with full doses of tannopin by mouth. After the administration of the medicines and washing out the bowel I have not been able to see any amebas after forty-eight hours' treatment in any one of these three cases. These patients have been under treatment four months, two months and one month respectively. So far there have been no recurrences. I am inclined to believe, however, that it would be well to use local irrigations and at the same time use ipecac.

Dr. Samuel G. Gant, New York: I wish to confirm Dr. Tuttle's statements regarding the usefulness of appendicostomy in the treatment of both the amebic and bacillary types of dysentery. This operation, however, would not be necessary except in rare instances in this class of cases if thorough colonic irrigations could be obtained otherwise. There is but a small number of medical practitioners, hospital internes and nurses who could effectively introduce the colon tube and wash out the bowel. Lack of training renders many unable to pass the tube beyond the obstructions offered by the sphincter muscle, rectal valves, and the angulation at the rectosigmoidal juncture. When the colon tube cannot be made to enter the upper part of the large intestine in the ordinary way, the sigmoidoscope should be introduced and the tube passed through it. Low irrigations diminish the number of stools but high washing of the bowel is imperative when a cure is anticipated. One must go even a step farther than this and place the patient in the Trendelenburg posture and then change him from one position to another to make the irrigation complete, because if this is not done the fluid will flow along one side of the gut and leave the lesions on the other untouched. In my opinion, the temperature of the solution has nothing to do with the healing quality of the irrigation and I prefer it at the bodily temperature because it is more comfortable; I have discontinued ice cold solutions because of the shock and great suffering which their employment frequently induces. I have successfully treated patients suffering from dysentery with solutions containing salt, quinin, ichthyol, kramaria, hydrastis, boric acid, permanganate of potash, formalin, silver nitrate and other medicaments in varying strengths, and I believe that the greatest benefit derived from any irrigating fluid is due to its mechanical effect in cleansing the ulcers and removing toxins from the bowel. When the discharge is profuse and contains considerable pus and blood, in the beginning I prefer to wash the bowel out daily with a solution containing from 20 to 30 grains of silver nitrate to the quart, to be followed by flushing the bowel with a normal salt solution to lessen the tenesmus when necessary; when the movements have a very offensive odor, I correct this and encourage the ulcers to heal rapidly by employing a 2 per cent. solution of ichthyol. I hold that the dysenteric lesions in a few cases involve the lower ileum and that in others the dysentery has become grafted on an enterocolitis, and that under such circumstances it is imperative that the irigating fluid be made to reach the few lesions in the small bowel as well as the many ulcers in the colon. In such instances, and in cases in which, for any reason, the appendix is found unfitted for through and through irrigation, I recommend cecostomy, which provides a simple means of irrigating both the small and the large intestine, a procedure which has proved universally successful in my hands. So far as my experience goes, appendicostomy and cecostomy are far superior to diet, rest and all forms of medication, not only in dysentery, but in other types of colitis; and these surgical procedures should not be discarded in favor of the special treatment as many of the previous speakers would have us believe.

Dr. Sidney K. Simon, New Orleans: Our surgical friends have certainly added much of timely interest and value to the discussion of this important subject. At first it appeared we were going to have merely a love feast with ipecac as almost the sole article of diet. I believe that ipecac is best administered in one large dose, given in the evening, after a three-hours' fast. The plan of giving 5 grains, or 10 or 20 grains, three times a day, is not so good in my opinion as the one large dose. Formerly we also used opiates, but the employment of the salol-covered pill makes this in most instances unnecessary. I agree with Dr. Tuttle about finding the amebas in the warmed stools only. Neither do we find it necessary to strain the feces or to pick out the mucous flakes. On the there is any chronic disturbance of the intestines. It is important for us to remember that a patient with chronic dysentery, true amebic dysentery, does not have the classical symptoms of dysentery all the time. The stools may appear normal for long periods of time. I should like to speak of some of the practical details in examining the stools of these patients. Ordinarily, it is easy to have a patient pass a stool at command. An examination of a stool with the naked eye is often unsatisfactory. Even an examination by the microscope may be negative. Therefore, in a negative case we should never be satisfied with a single examination or even with repeated examinations of ordinary stools. The next thing to do is to examine by rectum with a tube or speculum. t is better to pass the tube or speculum into the rectum; o use no grease on it, because it interferes with the examination. By working the instrument around, it will enter and sometimes we can get very positive information. If this examination should be negative, I think it is essential to give the patient a dose of salts, say Carlsbad salts, in order to produce watery stools. It is easy to understand by an examination of the intestine how a stool can be passed without amebas with it. The amebas lie in the abscesses or in the ulcers along the wall of the intestines and the stool passes by without mixing them in. I recall an interesting and instructive experience I had with a case that was diagnosed as amebic dysentery from the symptoms, yet was unable to find the amebas when the patient had a natural stool. A rectal tube was passed, but the patient complained so that it had to be removed. I then passed my finger into the rectum and got a lot of stuff which was filled with amebas. Why they were not forced out before I could only surmise. In the examination of the material it is not necessary to use a warm stage. Even in fairly cool weather the amebas keep up their activity for sometimes three or four hours. It is better, however, to examine them fresh; it is easier to detect them when they are lively. There is another point which I think should be mentioned. Beginners are easily led astray by the presence of large cells which they think are amebas. Red cells may be included in them. I have found people who had great difficulty in differentiating them.

I am glad that the success with the ipecac treatment has been confirmed by the results obtained in Dr. Barker's two cases. When we speak of results I must admit that many of the patients could not be followed up; so we could not be certain that they were entirely cured. Some patients have come back with the disease after weeks or months, four or five months, and we have not been able to find amebas, either with the aid of the rectal tube or speculum, or with the use of the Carlsbad salts. I recall the case of a man with the disease; he came from the Philippines and had been under treatment for two years; he had been given quinin, salicylic acid, etc. This patient was readily cured by the use of ipecac according to the method of Roberts. He was given 7 grams, or 105 grains, of ipecac in pills covered with salol. The amebas immediately disappeared from his stools. When he left the hospital I thought he might have a recurrence. He wrote me four years later and stated that he had "consumption." I supposed the amebic dysentery had returned with abscess of the liver, and I asked him to come back for examination. He returned and I found that he had tuberculosis. A very thorough examination of the stools failed to reveal any amebas. There were no signs of liver abscess. The failure of the operation of appendicostomy is what we should expect in some cases. The attempt to irrigate the colon through the cecum, washing downward, must fail in washing out the tube thoroughly. At all events, it would be well to try ipecac before resorting to an operation.

Dr. Hobart A. Hare, Philadelphia: I think that much interest in this discussion lies in the fact that thirty years ago Stillé taught his students to use ipecac at a time when they had no conception that amebas produced the disease. In May, I received a paper from Dr. Rogers of the Indian Medical Service practically repeating the facts already published in regard to the value of ipecac not only for the cure of dysentery but as a prophylactic against amebic abscess of the liver. The claims he makes for the prevention of hepatic complications by the employment of ipecac are so strong that, if his results are proved to be correct, the use of this agent should be resorted to in every case of amebic dysentery. The instances in which appendicostomy has proved of value constitute a class by themselves, a class in which the appendix acts as a focus of infection for the bowel. The cure does not follow from the irrigation used in the colon, but because it removes the focus of infection in the appendix. In a number of cases of so-called mucomembranous enteritis or colitis which seemed to be associated with neurasthenic conditions, I have seen the removal of the appendix result in a cure, simply because when the appendix was opened it was found to contain one or two drops of pus, and I have seen the physician in attendance disappointed because he thought the operation was going to be a failure so far as an ultimate cure was concerned, when in reality the removal of the infecting focus was exactly what was needed. And so in amebic cases, the appendix oozes out infection day by day. I am glad Dr. Dock spoke of the difficulty of irrigating the colon through the appendix; I am inclined to believe that this is no safe procedure. Some may remember that about twenty years ago experiments were made to determine just how much pressure the intestine could stand. It was proved that a pressure greater than that exercised by a fountain syringe placed twenty inches above the table was dangerous. This is the pressure we ordinarily get. This is more dangerous in a diseased gut, particularly when the lesions are ulcers the result of amebic infection. I agree that it is necessary to have proper technic in the use of ipecac. If not given properly it fails. Three or four surgeons returning to the United States from tropical countries have told me that this treatment only failed when the method of administration was erroneous. A very interesting point concerns the geographical distribution of the disease. Jefferson College Hospital is one of the largest in the country, more than 5,400 patients being admitted to the wards annually. There is a correspondingly large outdoor service. I have charge of these wards six months out of every year. I think I can remember but three cases of amebic dysentery occurring in the eighteen years that I have had charge of this service. We have a different service from that at the Johns Hopkins Hospital not only as regards dysentery, but as regards malaria, and yet we are only distant about one hundred miles. This difference is extraordinary. I am sure that the same conditions exist in other Philadelphia hospitals.

Dr. Hugo A. Freund, Detroit, Mich.: I can bear witness to Dr. Simon's statement about the widespread prevalence of dysentery. The cases are not necessarily endemic for it seems to me that they are coming from different portions of the globe. Last year I treated two cases of amebic dysentery that in some ways were of great interest. At the suggestion of Dr. Dock the first patient was treated with the salol-covered ipecac pills, 5 grains being given at a dose, and repeated every hour. But my method of administration differed somewhat from his. I first prepared the patient for medication. The first time the ipecac was given, 65 grains altogether, there was considerable diarrhea, tenesmus and pain. An examination of the stools the next morning, to my astonishment, revealed no amebas, nor could any forms resembling dead ones be found. For the next two weeks I gave the patient nothing but colonic irrigations; in addition the patient had rest, a soft diet, etc. In two weeks he was put through another course of ipecac, receiving a little more this time. All through there were no amebas in the stools, the patient experienced very little pain. In another week he was given 80 grains more of salol-covered ipecac pills. That was last November. Seven months have elapsed and the patient has gained in weight and feels very different since his infection. To all intent and purposes he is absolutely well. In this case the interesting feature was the degree of ulceration in the lower bowel which could easily be seen with the sigmoidoscope. These ulcers are entirely healed. His stools are normal in gross appearance and in the course of repeated examinations I have never found a sign of an ameba. The other patient was a young soldier from the Philippines. He received a typical course of treatment, being given large doses of salol-covered ipecac pills. This patient was also irrigated because I felt that some benefit would result from flushing the large bowel. He, too, is well. I am sure that there are other cases like this in different parts of the country as far north as Michigan, but we fail not only to recognize these cases, but also to treat the patients by what I believe to be the only satisfactory method, namely, administration of large doses of ipecac.

Dr. James P. Tuttle, New York: It is well to hear both sides of a subject such as this—the surgical as well as the medical. We who have had more experience in the local treatment of these conditions than those who have participated in the discussion thus far know that the results of local measures and of appendicostomy have been maligned here this afternoon; all our patients come to us for local measures and appendicostomies after failure to cure by medical measures alone. I have seen true amebic dysentery develop in people who had never been outside of a fifty-mile radius of New York City, and there is no longer any doubt that the disease is frequent high up in the temperate zones. A patient was sent to me for diagnosis who had been treated by physicians in Philadelphia, Baltimore, Richmond and New York. All these men had amebic dysentery in view, but they had failed to discover the amebas. I took the patient and made a very careful local examination and could only find some small scars in the rectum, apparently such scars as are seen after dysentery. I sent this patient to the hospital and placed him in the laboratory. He was given large doses of salts and was told to stay there until his bowels moved. He remained there five hours and yet there occurred no movement of the bowel. The next day this was repeated and we got a stool in which was a mass said to be about the size of the thumb nail, which was alive with motile amebas. The stools must be examined in a fresh state and warm; also every stool should be strained in order to get the little mucus flakes in which the amebas are found. The patient, mentioned by Dr. Fletcher, who was operated on at Johns Hopkins Hospital, and in whom the appendicostomy failed to cure, turned up afterward in my office. I followed this patient carefully. In the appendix I found a rubber tube which had become almost vulcanized from being left in too long, and which stuck down five inches into the cecum. There were ulcers around the end of the tube where it was pressing. I also found in the lower end of the rectum a number of ulcers, not amebic at all, but the result of mixed infections, which did not require amebic treatment. They required simply local treatment for the subsequent infection which had followed the amebic infection. This was a traumatic ulcer and cure resulted from simple local treatment. I disavow any desire to perform an appendicostomy on an individual with amebic dysentery until there has been tried Epsom salts, ipecac, local washings with quinin solutions, etc. I do not think it makes much difference what solution is used so long as the temperature is below 70 F. I am using a different method. I do not advise operation until I have tried local treatment. But when I fail with the use of the local treatment and the patient comes back again in four or five months and shows that I have not reached the seat of the amebic infection, then I may propose operation. Washing out the colon through the appendix is effectual; it gives no mortality, while the reader of the paper confesses to a mortality of 17 per cent. under medical treatment. Over 125 of these patients have been treated in New York City, with but one death. This patient died from acute miliary tuberculosis after an appendicostomy. Not less than twenty officers of the United States Army, treated with ipecac and other medicines, were not cured; they then said, if these agents fail, let us try appendicostomy and see if we cannot be cured. The trouble with so many appendicostomy operations is that the operation is not done as it should be; an infection occurs around the end of the appendix which, as a result, slips back into the abdomen. Another thing is that the opening is closed too quickly. In the United States Army men the openings are usually closed inside of three months. I never close them inside of six months, and in the majority of cases I leave them open permanently. The opening is a safety valve. It is easy to get a stool by running warm saline solution through the fistula. I only advise operation as a last resort. Recently I have had three patients with amebic dysentery. I treated them by administering a formalin solution, one dram to a quart of water; along with full doses of tannopin by mouth. After the administration of the medicines and washing out the bowel I have not been able to see any amebas after forty-eight hours' treatment in any one of these three cases. These patients have been under treatment four months, two months and one month respectively. So far there have been no recurrences. I am inclined to believe, however, that it would be well to use local irrigations and at the same time use ipecac.

Dr. Samuel G. Gant, New York: I wish to confirm Dr. Tuttle's statements regarding the usefulness of appendicostomy in the treatment of both the amebic and bacillary types of dysentery. This operation, however, would not be necessary except in rare instances in this class of cases if thorough colonic irrigations could be obtained otherwise. There is but a small number of medical practitioners, hospital internes and nurses who could effectively introduce the colon tube and wash out the bowel. Lack of training renders many unable to pass the tube beyond the obstructions offered by the sphincter muscle, rectal valves, and the angulation at the rectosigmoidal juncture. When the colon tube cannot be made to enter the upper part of the large intestine in the ordinary way, the sigmoidoscope should be introduced and the tube passed through it. Low irrigations diminish the number of stools but high washing of the bowel is imperative when a cure is anticipated. One must go even a step farther than this and place the patient in the Trendelenburg posture and then change him from one position to another to make the irrigation complete, because if this is not done the fluid will flow along one side of the gut and leave the lesions on the other untouched. In my opinion, the temperature of the solution has nothing to do with the healing quality of the irrigation and I prefer it at the bodily temperature because it is more comfortable; I have discontinued ice cold solutions because of the shock and great suffering which their employment frequently induces. I have successfully treated patients suffering from dysentery with solutions containing salt, quinin, ichthyol, kramaria, hydrastis, boric acid, permanganate of potash, formalin, silver nitrate and other medicaments in varying strengths, and I believe that the greatest benefit derived from any irrigating fluid is due to its mechanical effect in cleansing the ulcers and removing toxins from the bowel. When the discharge is profuse and contains considerable pus and blood, in the beginning I prefer to wash the bowel out daily with a solution containing from 20 to 30 grains of silver nitrate to the quart, to be followed by flushing the bowel with a normal salt solution to lessen the tenesmus when necessary; when the movements have a very offensive odor, I correct this and encourage the ulcers to heal rapidly by employing a 2 per cent. solution of ichthyol. I hold that the dysenteric lesions in a few cases involve the lower ileum and that in others the dysentery has become grafted on an enterocolitis, and that under such circumstances it is imperative that the irigating fluid be made to reach the few lesions in the small bowel as well as the many ulcers in the colon. In such instances, and in cases in which, for any reason, the appendix is found unfitted for through and through irrigation, I recommend cecostomy, which provides a simple means of irrigating both the small and the large intestine, a procedure which has proved universally successful in my hands. So far as my experience goes, appendicostomy and cecostomy are far superior to diet, rest and all forms of medication, not only in dysentery, but in other types of colitis; and these surgical procedures should not be discarded in favor of the special treatment as many of the previous speakers would have us believe.

Dr. Sidney K. Simon, New Orleans: Our surgical friends have certainly added much of timely interest and value to the discussion of this important subject. At first it appeared we were going to have merely a love feast with ipecac as almost the sole article of diet. I believe that ipecac is best administered in one large dose, given in the evening, after a three-hours' fast. The plan of giving 5 grains, or 10 or 20 grains, three times a day, is not so good in my opinion as the one large dose. Formerly we also used opiates, but the employment of the salol-covered pill makes this in most instances unnecessary. I agree with Dr. Tuttle about finding the amebas in the warmed stools only. Neither do we find it necessary to strain the feces or to pick out the mucous flakes. On the contrary, all parts of the stool should be examined, as the mucous flakes do not always contain the largest number of amebas. I was not correctly understood regarding the mortality figures. Fifty cases were reported, mostly from hospital records, and not all my own, so that the treatment varied. In every patient not moribund treated by me with ipecac, the mortality has been nil. There is a certain tendency to recurrence in this as in all bowel infections. This should be explained to the patient with the understanding that perhaps a second course of treatment will be necessary. In one of my cases with a clear amebic history of eight years' standing, there has been no recurrence for one year following the second ipecac treatment. *After the patients have once been freed of amebas it is important to instruct them to boil the water they use to obviate the dangers of reinfection.* After these patients are cured in the hospitals they might return to their former residence only to become reinfected with the original contaminated water supply. I trust that I have made clear the two points I wished especially to emphasize: the prevalence of the ameba over the entire country, and especially in the south, and the proved value of the ipecac treatment, rendering surgery in most instances unnecessary.

A RATIONAL AND SIMPLE SYSTEM OF SERODIAGNOSIS OF SYPHILIS *

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In a rationally constructed complement fixation test the quantity of each reagent should be known and definite. The relative quantities of the different factors used should also be definite and suitable. The reasons why these principles should be respected will be apparent.

First, let us study the properties of hemolytic amboceptor and complement. When present together amboceptor and complement dissolve the blood corpuscles for which the amboceptor used possesses a specific affinity. The process of hemolysis is, however, a quantitative one. To dissolve a given bulk of corpuscles requires a definite amount of amboceptor and complement; and the quantity of these two reagents just sufficient to cause complete hemolysis within a time limit represents the unit of these hemolytic components relatively to each other. Expressed graphically:

1 unit corpuscles + 1 unit amboceptor + 1 unit complement = complete hemolysis.

There exists, however, a peculiar relationship between the requisite amounts of amboceptor and complement necessary to produce complete hemolysis of one unit of corpuscles. If we use more than one unit of amboceptor, less than one unit of complement will be sufficient to cause complete dissolution of the corpuscle mass. So that if, for instance, ten units of amboceptor be added, *one-fifth or even less of the unit of complement* will be sufficient; or, in other words, the requisite amount of complement can be gradually reduced if the amboceptor quantity is at the same time increased, until finally we reach the minimal amount of complement, to the addition of which no quantity of amboceptor will cause complete hemolysis. With this fundamental fact of the quantitative relationship between complement and amboceptor[1] in mind, it will be evident that the degree of hemolysis does not indicate the *absolute* quantity of complement operative in the hemolytic process. It indicates merely a *relative* quantity which varies with the quantity of amboceptor used in each instance. There-

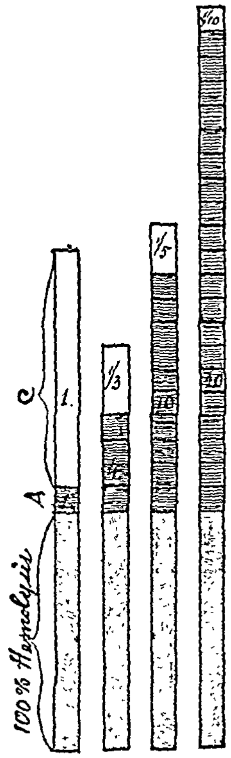

Fig. 1.

Fig. 1.—Shows that complete hemolysis can be produced by using variable proportions of amboceptor and complement. A, amboceptor; C, complement; H, hemolysis. The figures in lined zones indicate the number of units of amboceptor, and those in blank zones, the quantity of complement required in each combination.

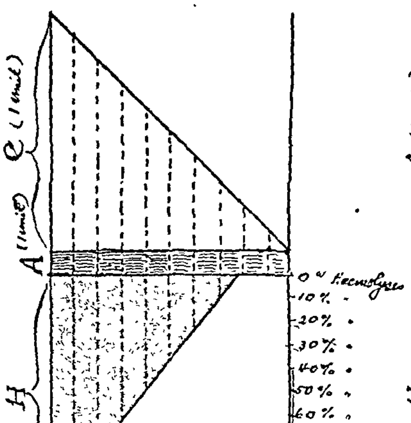

Fig. 2.

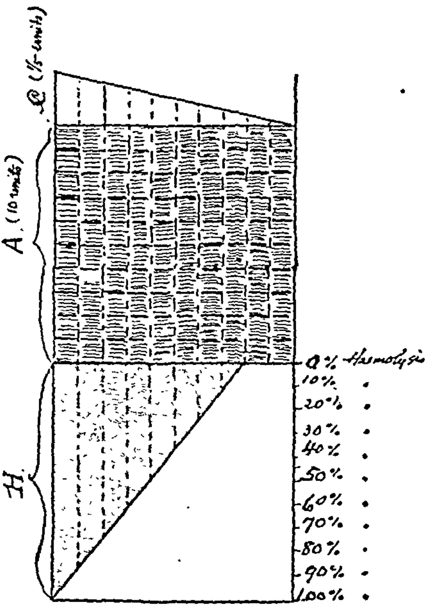

Fig. 3.

Fig. 2.—Shows the decreasing degree of hemolysis by using decreasing quantities of complement with one unit of amboceptor.

Fig. 3.—Shows decreasing degree of hemolysis produced by using less complement and more amboceptor (10 units). These two figures demonstrate that exactly the same degree of hemolysis can be produced by widely different quantities of complement according to the relative amount of amboceptor used.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

[1] Morgenroth and Sachs: Berl. klin. Wchnschr., xxxix, 817. Noguchi: Jour. Exper. Med., 1906, viii, 87.

fore, no one can measure even approximately the quantity of complement in action, unless he knows the amount of amboceptor present. Without this factor an estimation of the amount of complement by the degree of hemolysis is out of the question (Figs. 1, 2 and 3).

In the complement fixation test the deviation of complement is estimated by the phenomenon of hemolysis. If complement is fixed or deviated there will be no hemolysis, but the absence of hemolysis may be due either to partial or to total fixation of complement. In case of partial fixation the remaining fraction of complement may become sufficiently active to produce complete hemolysis if an excess of amboceptor is present. Thus we can obtain a negative result with a positive syphilitic serum in the presence of such an excess. That such a fallacious reaction is not merely a theoretical possibility but is frequently encountered in practice can be demonstrated experimentally. It is, therefore, absolutely necessary that a definite and appropriate quantity of complement and amboceptor be used in the test. The strength of corpuscle emulsion should also be approximately uniform.

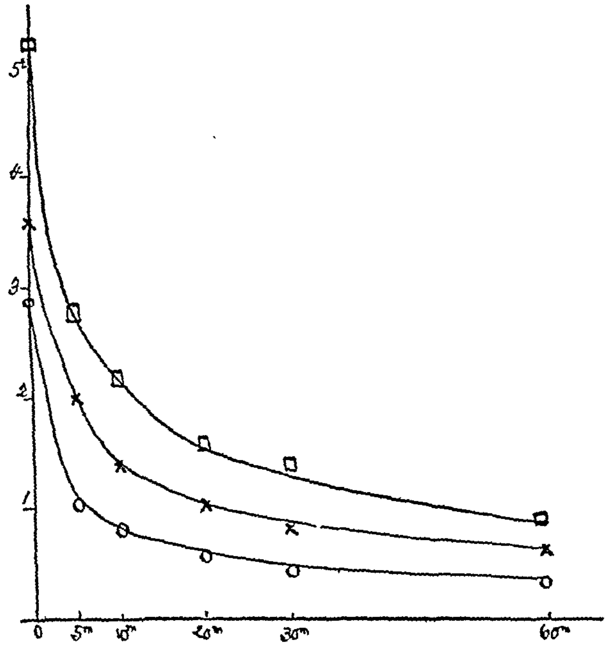

Fig. 4.—Curves indicating destructive influence of inactivation (55° C.) on the syphilitic "antibody." The small squares indicate serum from an untreated secondary syphilis; the crosses indicate serum from a case of chancre; the circles indicate serum from a manifest case of tertiary syphilis. The base line shows the length of time in minutes of exposure of the serums to that temperature. The side line shows the quantity of "the antibody" originally contained in each specimen. The curves show the rapidity of destruction of the antibody.

In regard to antigen, it should be borne in mind that all preparations of this substance possess not only an antigenic property, but also an anticomplementary one, and if the anticomplementary action be present in excess in any given preparation it renders the material unfit for use, because it may cause complete fixation even without the presence of any syphilitic antibody. Therefore, we should select by trial a preparation in which this anticomplementary action is reduced to a minimum and use that dose which does not by itself bind complement, but which will cause complete fixation with the serum of an untreated subject of secondary or tertiary syphilis.

Aqueous extracts of the liver of a congenitally syphilitic fetus contain an excess of antigen over anticomplementary property, as do alcoholic extracts, but in the former the anticomplementary action exceeds that of the latter.

The antigenic property of any tissue is due to certain lipoids present in it, lecithin being but one of a large number of such bodies. The aqueous extract contains, in addition to these lipoids, bodies of a protein and fatty nature, which render it very unstable and subject to rapid disappearance of the antigenic property. The alcoholic extracts, on the other hand, while they contain considerably less anticomplement and are much more stable, rarely deteriorating, may contain hemolytic substances, such as soaps, fatty acids, etc. Fortunately, according to my experience, the antigenic substances can be separated from both the anticomplementary and hemolytic by fractioning the dried alcoholic residue with acetone, the disturbing factors going over in the soluble portion. The insoluble fraction, containing the antigenic property, can be preserved indefinitely as a resinous mass or in alcoholic solution. The latter can then be used as an emulsion in salt solution as required, when, however, it is subject to the same rapid deterioration as the watery extract or the alcoholic extract after the latter has been emulsified for use in doing the test.

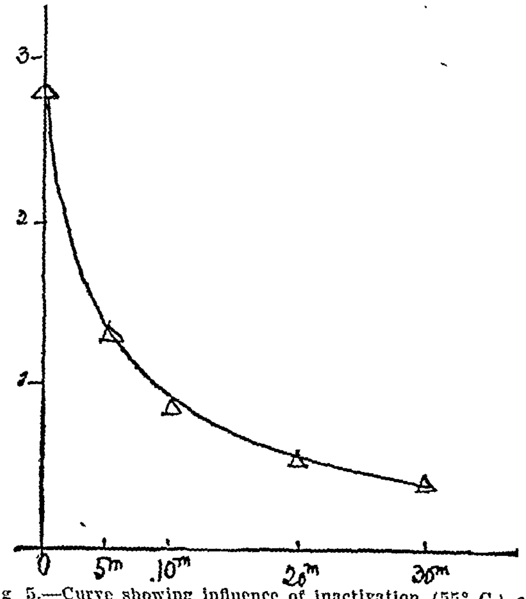

Fig 5.—Curve showing influence of inactivation (55° C.) on the reacting substance of leprosy serum.

Paper may be impregnated with acetone insoluble fraction of the alcoholic extract, and this paper will retain its antigenic property indefinitely.

It may be said that the irregular and unsatisfactory results from the use of alcoholic extracts can be attributed, at least in part, to the disturbing factors pointed out above and the uncertainty of the concentration of any given preparation. The acetone insoluble fraction, however, as pointed out above, can be dried and definite quantities used. It contains antigenic properties in comparatively pure condition. This acetone insoluble fraction as derived from various organs differs only in quantity, the quality of the preparations being practically the same.

Concerning the quantity of the serum to be tested, it is necessary to distinguish between unheated and heated serum, because inactivation at 56° C. for thirty minutes reduces the antibody content to 20 or 25 per cent. of that originally present in the fresh state. Hence, to obtain comparable results, it is necessary to use four or five times as much inactivated serum as unheated serum.

In certain systems in order to utilize the patient's own complement the serum is used in considerable quantity in the unheated state (practically as much as is used in the Wassermann system, 0.1 or 0.2 c.c.), and these systems frequently are oversensitive. This source of error can be eliminated by carefully adjusting the dose of serum to be used. Hence the criticism of certain investigators in relation to this point is valid only if an excess of unheated serum is used. I present in Figures 4, 5 and 6 some of the curves of the rate of destruction of the so-called syphilitic antibody by exposure to different temperatures for variable lengths of time. The curves were taken by examining each serum for the antibody content before and after heating by means of complement fixation.

From what has been said above it will be seen that it is essential to analyze each individual factor concerned in the test, to be able to determine, if necessary, its quality as well as its strength. Complement, amboceptor, corpuscular emulsion and antigen should be of known strength. Each of these substances must be separable from the rest, titrable and a proper combination of all should be used.

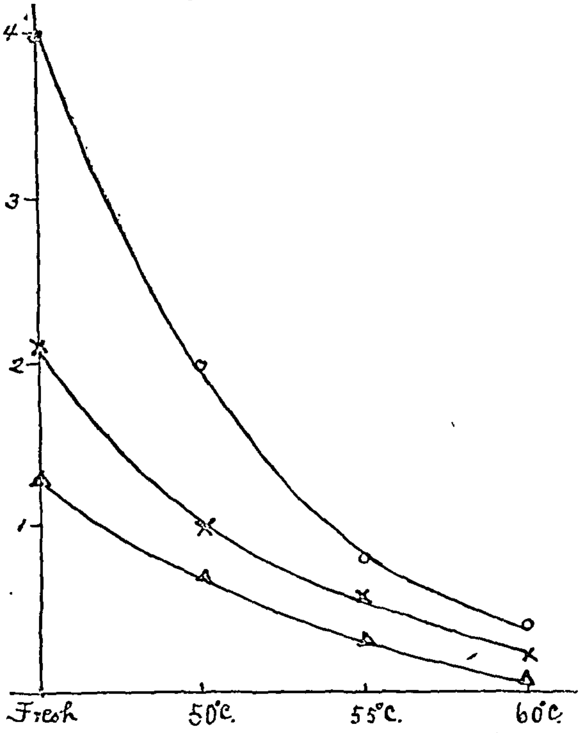

Fig. 6.—Curves showing influence of different temperatures on the syphilitic "antibody." Time of exposure thirty minutes at each temperature. Circles indicate serum from a case of secondary syphilis; crosses indicate serum from a case of primary syphilis; triangles indicate serum from a case of tertiary syphilis.

In the methods introduced to the profession by the various investigators certain defects are inherent and irremovable, as will be pointed out further on, rendering the tests more or less open to objection.

It will be apparent to all that in the complement fixation test we are dealing with variable factors and with reagents subject to deterioration in the hands of the most experienced workers, which will, in a measure at least, account for the discrepancies of the results of different investigators. Hence the value of any system rendering the use of stable reagents possible is evident.

It is my purpose now to consider the various forms of this test as applied to the diagnosis of syphilis.

1. Group of Systems in Which Foreign Corpuscles Are Used

A. Wassermann-Neisser-Bruck System.—Guinea-pig complement titrable and definite. Amboceptor of unknown and variable quantity. *From two sources: one irremovably present in* the patient's serum and varying from 0 to 20 units, the other added, from rabbits immunized to sheep's corpuscles, two units. Corpuscle suspension (sheep's) definite. Serum to be tested must be inactivated within twenty-four hours before use. Antigen may deteriorate rapidly. Only one fault: the use of an unknown quantity of amboceptor, which, if sufficiently excessive, may render a positive case negative.

B. Bauer's System.—Same as the previous except that it relies on the natural anti-sheep amboceptor of human serum. Occasional absence of this factor adds a further defect.

C. Hecht's System.—Relies on complement and amboceptor present in patient's serum; hence both factors unknown, *untitrable, inseparably mixed. In a syphilitic serum no direct* way to estimate accurately the anticomplementary strength of antigen alone because of presence of syphilitic antibody. Test must be made within twenty-four hours, because complement gradually diminishes. Washed sheep's corpuscles used. The amount of patient's serum comparatively too large, but can not be reduced, as it would also reduce the amount of complement at the same time. All defects of the foregoing systems as well.

D. Stern's System.—Same as C, except that immune anti-sheep amboceptor is added. Similar defects.

E. Detre's System.—Rabbit complement. Immune anti-horse amboceptor in definite quantity. Washed horse corpuscles. *Inferior sensitiveness of rabbit's complement to fixation,* and occasional presence of the natural amboceptor in the serum to be tested.

2. Group of Systems in Which Human Corpuscles Are Used

A.—Tschernogubow's System.—Patient's blood directly dropped into saline solution. Complement, corpuscles *and antibody*, if present, all in same medium. None of these three factors titrable because inseparable. Specimen must be examined within twenty-four hours. Quantity of various factors inadjustable. System discarded by its author.

B. Noguchi's System.—Each factor is separable, titrable, definite. The proportional quantity of each factor adjustable. Complement from guinea-pig.[2] Can be used in fresh as well as dried state. Latter more stable; former preferable if obtainable. Amboceptor from rabbit immunized to human corpuscles and can be used in liquid state as well as dried on paper; latter more stable. Corpuscle suspension can be made from the blood of patient or any normal individual. Removal of serum by washing corpuscles preferable but not necessary unless fibrin ferment present. Patient's serum can be used in fresh, old or inactivated state and if necessary serum can be dried on filter-paper and examined after an indefinite length of time. Antigen prepared from normal or syphilitic tissues by alcoholic extraction and subsequent acetone fractionation. Can be made more stable by impregnating filter-paper. *No danger of introducing excess of* amboceptor or complement. Quantity of serum to be tested is very small and so adjusted as to avoid oversensitiveness. *When inactivated, four to five times the amount used.* Test, like all the others, requires a trained man, but not a fully equipped laboratory as is necessary with all the other systems. For details consult my previous publications.[3]

In a paper read before the Section on Nervous and Mental Diseases of this Association at this session,[4] I reported the results of about 1,800 cases analyzed by my system and 600 cases by the original Wassermann method, together with a comparative study of 244 cases examined by both these methods.

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[2] The complement contained in human serum is so weak that it does not interfere with the test.

[3] Jour. Exper. Med., 1909, xi, 392; München med. Wchnschr., 1909, lvi, 494.

[4] The Journal A. M. A., Sept. 18, 1909.

The Wassermann method is cumbersome and requires elaborate facilities and considerable experience for its proper execution and is utilizable in practice only to a limited extent.

The method which I have worked out is simple, requires a small and inexpensive equipment, can be applied after a little instruction, and, above all, gives a result more uniform and reliable.

SOME STUDIES OF THE PRECIPITIN TESTS FOR SYPHILIS *

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AND
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Since the epoch-making discovery of the *Treponema pallidum* by Schaudinn interest in the scientific diagnosis of syphilis, as opposed to the clinical diagnosis, has received a remarkable impetus, so that to-day almost all the more important laboratories of the world have some of their workers devoting their attention to this subject.

Probably the first and most successful result of these numerous investigations was the test described by Wassermann and since confirmed by numerous other investigators, using his test or some modification of the same. The results obtained by Wassermann and those using his test have been remarkably good, from 78 to 88 per cent. of syphilitic and parasyphilitic cases giving a positive reaction, whereas the non-syphilitic cases are negative in practically all, except some advanced cases of tuberculosis, carcinoma and sepsis.[1]

While these tests are extremely valuable from the scientific point of view, they are absolutely useless to the general practitioner and to the average laboratory worker owing to the complicated technic. The practical applicability of this test has probably been obtained recently by Noguchi with his simplified tests by the means of saturated papers, the complicated portion of the technic being performed in well-equipped commercial laboratories and the results of this work handed to the practitioner in condensed form.

Before Noguchi had elaborated this modification of the Wassermann test other investigators had been trying to simplify it by eliminating one or more factors in the experiment. The first and only modification which has any bearing on our work was when it was found that an alcoholic extract of syphilitic liver of a fetus would answer the purpose of an antigen as well as fresh extract of syphilitic fetal liver and could be preserved indefinitely. This discovery led to the investigation as to what could be the active factor in this alcoholic extract: it was found to contain merely bile salts.

Utilizing these bile salts, an effort was made still further to simplify the test by eliminating the necessity of demonstrating the deviation of the complement and endeavoring to obtain some direct specific action between the serum of syphilitic patients and solutions of the various bile salts. The reaction that was found to occur was the formation of precipitates which, according to some, were found to form earlier in syphilitic cases than in normal cases, and also to differ slightly in character. Preeminently among those claiming specificity for this reaction, especially with a bile salt called taurin, is Varney of Detroit. By his method he believes it possible to determine the presence of syphilis in about 87 per cent. of cases and believes that it is possible to determine if patients that have positively had syphilis and have been treated, have been cured.

Klausner, antedating Varney, found that he could obtain a precipitate early in 100 per cent. of syphilitics by the addition of 0.7 c.c. of distilled water to 0.2 c.c. of serum. He found, however, that a certain proportion of cases not syphilitic gave a similar reaction. These cases were mostly acute febrile conditions, so that they would not be liable to lead to confusion, therefore making the test of considerable value from his point of view. He considers the precipitate to be composed of globulins, which are present in excess in syphilis, and therefore thrown down early.

It is for the purpose of confirming, if possible, the above experiments that the studies were undertaken on which this article was based. Five different sets of experiments have been performed in which the following aqueous solutions have been used: 1 per cent. taurocholate of sodium, 1 per cent. glycocholate of sodium, 1 per cent. lecithin, 1 per cent. taurin and distilled water. In all, 54 cases were studied: 11 secondary syphilitics, 5 tertiary syphilitics, 18 parasyphilitics (17 paretics and 1 tabetic) and 20 non-syphilitics, including 2 cases with jaundice, 1 tuberculous peritonitis, 1 puerperal case, 1 suppurative appendicitis, 3 neurasthenics, 1 case of sciatica, 1 case of chancroid with adenitis, 1 case of gonorrhea, and 10 practically normal. These cases were obtained through the kindness of the chiefs at the Philadelphia General Hospital and Insane Department; also at the Medico-Chirurgical Hospital and the Genitourinary Department of the Polyclinic Hospital, and we wish to express our gratitude to all of these for permission to study the cases.

Altogether, 253 observations were made, including all experiments. The experiments consisted in adding one drop of serum to seven drops of the reagent. Observations were made from five to seven and one-half hours later and then at the end of eighteen hours. In our conclusions, we have found that the observations made at the end of eighteen hours are of no value, as practically all cases give identical results in that time, so these observations have been ignored.

In the majority of cases, the experiments were set up by one of us and the observations made by the other alternately, the one observing having no knowledge of the cases studied.

EXPERIMENTS IN DETAIL

In the taurocholate, glycocholate, taurin and water experiments, the final result usually obtained was a precipitate, almost invariably flocculent in character; at times, light and diffused through the liquid; at other times, heavy and settled at the bottom of the tube. Sometimes both characters of precipitates were present.

The precipitates varied in amount from abundant to moderate or very slight in amount. In most cases the precipitates were tenacious, resisting ready diffusion throughout the liquid, but rising by a spiral movement and showing a marked tendency to remain in the center of the tube. No amount of agitation would cause these precipitates to dissolve. Other experiments showed a much finer precipitate which did not show the same tenacity and frequently would disappear on agitation.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

* From the [illegible] y and Surgical Pathology of the Medico- [illegible] hiladelphia

[1] Marchild [illegible] of Alcoholic and Watery Extracts in th [illegible] philis, The Journal A. M. A., 1908, ii, 2140.

Owing to the character of the lecithin solution, which formed a cloudy emulsion, the observations had to be varied somewhat. The most characteristic change noted was a tendency to separation of the emulsion and central accumulation of the solid particles, while the fluid becomes clear. All stages could be noted from a perfect emulsion with uniform cloudiness to the formation of a dense, compact sediment and perfectly clear supernatant fluid.

TABLE 1.—TAUROCHOLATE EXPERIMENTS

Secondary Syphilis (14 Cases)

	Per cent.
Tinged	14.2
Cases showing flocculent precipitates	85.7
Precipitates:	
Tenacious	76.9
Non-tenacious	23.1
Slight or moderate in amount	100
Light in character	100

Tertiary Syphilis (5 Cases)

	Per cent.
Tinged	0
Cases showing flocculent precipitates	60
Precipitates:	
Tenacious	66
Non-tenacious	33
Slight or moderate in amount	100
Light in character	100

Parasyphilitic Cases (18)

	Per cent.
Tinged	27.7
Cases showing flocculent precipitates	100
Precipitates:	
Tenacious	88.8
Non-tenacious	11.2
Slight or moderate in amount	77.8
Abundant	22.2
Light in character	100

Suspected Syphilis

One case showed light, moderate, tenacious precipitates.

Non-Syphilitic Cases (14)

	Per cent.
Tinged	7.6
Cases showing flocculent precipitates	95.7
Precipitates:	
Tenacious	84.6
Non-tenacious	15.4
Slight or moderate in amount	84.6
Abundant	15.4

TABLE 2.—GLYCOCHOLATE EXPERIMENTS

Secondary Syphilis (13 Cases)

	Per cent.
Tinged	14.4
Cases showing flocculent precipitates	46.1
Precipitates:	
Cloudy	46.1
Tenacious	100
Abundant	16.6
Slight or moderate in amount	83.4
Heavy	16.6
Light in character	83.4

Tertiary Syphilis (5 Cases)

	Per cent.
Tinged	0
Cases showing flocculent precipitates	80
Precipitates:	
Cloudy	40
Tenacious	75
Non-tenacious	25
Slight or moderate in amount	100
Heavy	25
Light in character	75

Parasyphilitic Cases (14)

	Per cent.
Tinged	8
Cases showing flocculent precipitates	85.7
Precipitates:	
Tenacious	100
Slight or moderate in amount	92
Abundant	8
Light in character	100

Suspected Syphilis

One case showed slight, tenacious, light, flocculent precipitate.

Non-Syphilitic Cases (15)

	Per cent.
Tinged	21.4
Cases showing flocculent precipitates	93.3
Precipitates:	
Tenacious	71.7
Non-tenacious	28.3
Slight or moderate in amount	78.6
Abundant	21.4
Heavy in character	21.4
Light in character	78.6

TABLE 3.—LECITHIN EXPERIMENTS

Secondary Syphilis (13 Cases)

	Per cent.
Tinged	7.7
Cases showing clumping	30.7
Cases showing no clumping	69.3
Cases with clumping, showing clear supernatant fluid	75
Cases with clumping, showing cloudy supernatant fluid	25

Tertiary Syphilis (5 Cases)

	Per cent.
Tinged	0
Cases showing no clumping	100

Parasyphilitic Cases (16)

	Per cent.
Tinged	0
Cases showing clumping	68.7
Cases showing no clumping	31.3
Cases with clumping, showing clear supernatant fluid	54.5
Cases with clumping, showing cloudy supernatant fluid	45.5

Non-Syphilitic Cases (14)

	Per cent.
Cases showing clumping	21.4
Cases showing no clumping	78.6
Cases with clumping, showing clear supernatant fluid	33.3
Cases with clumping, showing cloudy supernatant fluid	66.7

TABLE 4.—TAURIN EXPERIMENTS

Secondary Syphilis (16 Cases)

	Per cent.
Tinged	18.7
Cases showing flocculent precipitates	93.7
Precipitates:	
Tenacious	86.6
Non-tenacious	13.4
Abundant	6.6
Slight or moderate in amount	93.4
Heavy in character	12.5
Light in character	87.5

Tertiary Syphilis (5 Cases)

	Per cent.
Tinged	0.
Cases showing flocculent precipitates	80
Precipitates:	
Tenacious	100
Slight or moderate in amount	100
Heavy in character	50
Light in character	50

Parasyphilitic Cases (17)

	Per cent.
Tinged	31.2
Cases showing flocculent precipitates	94.1
Precipitates:	
Tenacious	100
Abundant	18.7
Slight or moderate in amount	81.3
Heavy in character	50
Light in character	50
Both heavy and light in character	18.7

Non-Syphilitic Cases (18)

	Per cent.
Tinged	0
Cases showing flocculent precipitates	88.8
Precipitates:	
Tenacious	37.5
Non-tenacious	62.5
Abundant	31.2
Slight or moderate in amount	68.8

TABLE 5.—WATER EXPERIMENTS

Secondary Syphilis (14 Cases)

	Per cent.
Tinged	14.3
Cases showing flocculent precipitates	35
Precipitates:	
Tenacious	60
Non-tenacious	40
Abundant	40
Slight or moderate in amount	60
Light in character	100
Heavy in character	0

Tertiary Syphilis (5 Cases)

In only 1 case was 2 drops of serum used, and this showed an abundant tenacious precipitate. The remaining 4 cases were negative, only 1 drop of serum having been used.

Parasyphilitic Cases (17)

	Per cent.
Tinged	7.6
Cases showing flocculent precipitates	76.4
Precipitates:	
Tenacious	100
Slight or moderate in amount	100
Heavy in character	84.7
Light in character	83.7
Both heavy and light in character	15.3

Non-Syphilitic Cases (14)

	Per cent.
Tinged	7.1
Cases showing flocculent precipitates	50
Precipitates:	
Tenacious	29.5
Non-tenacious	71.5
Slight or moderate in amount	100
Light in character	100

From our observations we have come to the conclusion that with the taurocholate, glycocholate, taurin solution and the distilled water, a positive reaction consists of a light or heavy flocculent tenacious precipitate which does not dissolve on agitation; whereas we consider as positive a lecithin experiment in which the emulsion separates with the formation of dense central clumps and clear or almost clear supernatant fluid. A study of the cases in detail on this basis shows the following facts:

In the taurocholate tests, we found that the parasyphilitics gave the highest proportion of positive reactions, then the non-syphilitics, those with secondary syphilis and finally those with tertiary syphilis. It is possible that the proportion is highest in the parasyphilitics, because there was a slightly larger portion of these cases in which the serum showed some hemolysis or blood-tinging. We believe, however, that this is improbable, as all cases showing much tinging of the serum were rejected.

In the glycocholate experiments, again the parasyphilitics gave the highest proportion of positive reactions, then the non-syphilitics, the tertiary syphilitics, and finally the secondary syphilitic cases.

In the lecithin experimen[illegible] show more than twice as great a [illegible] reactions as any other series of cases; then come the cases of secondary syphilis; the non-syphilitics and finally the tertiary syphilitic cases gave no positive reactions. One of the non-syphilitic cases giving a typical reaction was a case of hypertrophic cirrhosis, in which the blood evidently contained bile salts. The patient was deeply jaundiced.

In this series, the number of positive reactions were too few to be of great value.

The results with taurin are somewhat better than with the other bile salts. Again, the parasyphilitic cases gave the highest proportion of positive results. The secondary syphilitic cases showed a slightly smaller proportion, then the tertiary syphilitic cases, and finally the non-syphilitic cases with about one-third as many positive reactions distributed equally between normal and other cases.

In the water experiments, we regret to state that, owing to inability to obtain the original of Klausner's article, we were not aware of his exact technic, but followed the same technic as in the other experiments, except in about a dozen cases in which we doubled the proportions of serum, making it correspond with the proportions used by Klausner. In the series in which this was done, the proportionate final results were practically identical, so that we feel that our methods will give the same results as the Klausner technic.

The results are as follows: The parasyphilitics again gave a very much higher proportion of positive tests. The secondary and tertiary syphilitics and the non-syphilitics gave an almost equal proportion of positive results, though in all the proportion was but about one-third of that in the parasyphilitic cases.

CONCLUSIONS

As a result of the foregoing observations, we are led to believe that none of these tests gives the practitioner a short road to the diagnosis of syphilis. They may be of some scientific interest, especially on account of the high proportion of positive results in parasyphilitics in each set of experiments, but the proportion of positive results in non-syphilitics is too high to make the test of value. Of the solutions used, taurin seems the best.

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SERODIAGNOSIS OF SYPHILIS *

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The scientific medical world is ever ready to herald any advancement in the refinement in diagnosis of this world disease, especially in view of the fact that there is probably no infection which at times offers greater difficulties in diagnosis than syphilis. It is true that the therapeutic test is valuable, but it falls far short of being a practical and scientific diagnostic measure. The confirmation from many workers as to the utility of the serum test seems now to have reached a stage where it can be used as an actual laboratory aid in diagnosis. In 1906 Wassermann, Neisser and Bruck[1] published a series of experiments demonstrating *in vitro* syphilitic antibodies in blood serum and specific material in syphilitic tissues. Later, Wassermann and Plaut[2] found syphilitic antibodies in the spinal fluid of 78 per cent. of 41 cases of progressive dementia.

This was the first application in clinical medicine and has ever since been known as the "Wassermann syphilitic reaction." Wassermann and others showed that in the serum of syphilitic apes a substance was produced which was not present in normal serum, and later they discovered that when the blood serum of syphilitic individuals was added to liver extracts of a luetic still-born the complement was anchored.

The researches of Bordet and Gengou in 1901 paved the way for this reaction, since the principle consists in the binding of the complement, a phenomenon first observed by these investigators on emulsions of bacteria.

It is a well-established fact that if the blood of an animal (A) should be injected every seven or eight days, for several inoculations into another of a different species (B), the serum of the latter will disintegrate the red blood corpuscles of the former, producing what is known as hemolysis. The dissolution of the red blood cells is dependent on two substances; neither can act without the other. One of these is always present in any blood serum, and is called the complement. It is thermolabile, i. e., its destruction occurs when heated to 58 C. for one-half hour. By heating, said serum is rendered "inactive"; hence the term "inactivated" is used when the complement is destroyed. The other substance necessary for hemolysis, known as an antibody or hemolytic amboceptor, results from the reaction of the injected animal against the injected blood cells. It is thermostable, i. e., it withstands heating to 58 C. There are vast numbers of antibodies. No two are identical. They are specific and are the reaction product formed in the blood of an animal when a given substance, toxic or otherwise, is injected into it. So all substances, which, when injected into animals, are capable of producing antibodies, are, in general, called "antigens." If typhoid bacilli were injected into a guinea-pig every seven or eight days for several weeks, there will appear in the guinea-pig's serum a substance that will dissolve typhoid bacilli. This substance contains two bodies: (1) complement and (2) bacteriolytic amboceptor or antibody, which is analogous to the substance produced by the injection of red corpuscles into an animal of another species, but differing materially in their antibodies. These substances contain identical complements which are always present in any animal. The antibodies are manufactured as the result of an introduction of an antigen (typhoid bacilli or red corpuscles); hence are specific. The serum from the typhoid guinea-pig will not dissolve the erythrocytes nor will the serum from the immunized animal with red cells disintegrate the *Bacillus typhosus.* Bordet and Gengou took advantage of the above facts to determine the nature of an infection by mixing the inactivated serum obtained from an animal suffering from some bacterial disease with the bacteria (antigen) producing the affection and then added complement (guinea-pig serum). The above mixture was allowed to stand for about three-quarters of an hour and then red blood corpuscles plus its hemolytic amboceptor or antibody were added. If no hemolysis occurred it was due to the fact that there had already been a binding of the complement, the antigen and bacterial amboceptor being homologous. Hemolysis would take place in case the serum contained no amboceptor against the bacterial emulsion, thus rendering the complement available for the hemolytic amboceptor. It is evident from the above reactions that it is possible to demonstrate not only antibodies in the serum containing them, but also the substance (antigen) that gives rise to their formation.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixtieth Annual Session, at Atlantic City, June, 1909.

[1] Wassermann, Neisser and Bruck: Deutsch. med. Wchnschr., 1906, No. 19.

[2] Wassermann and Plaut: Deutsch. med. Wchnschr., 1906, No. 44.

Wassermann, Neisser and Bruck[3] applied the above principle to the demonstration of antibodies in the serum of persons suffering from syphilis. They employed for their antigen an alcoholic extract of syphilitic organs obtained from a luetic still-born. Marie and Levaditi found that a similar reaction, though a weaker one, could be produced with extracts from normal liver. Later, Michaelis, Fleischmann, Weil, Plaut, Volk and others showed that antigens for syphilitic serums were found in non-luetic organs. Landsteiner, Müller and Potzl[4] used extracts of guinea-pig heart as antigen, and found that their positive results coincided with the congenital luetic liver extract. This discovery is of great practical importance, as it will prove of inestimable advantage in promoting the availability of the Wassermann reaction, because the guinea-pig's heart can be secured with great readiness, while the congenital luetic organs are, at times, quite difficult to procure. Wassermann conceived the idea that these substances must be very similar to the lipoid bodies because of the solubility in alcohol of the active constituent from various organs. He directed Porges and Meier[5] to experiment with lecithin, and, in fact, found that the complement was anchored with syphilitic serums. Landsteiner and Müller discovered independently that lipoid substances, especially lecithin, produced this reaction. Potzl, Sachs and Altmann found that sodium oleate solution also acted similarly. Other substances, such as cholesterin, glycogen, sodium glycocholate and taurocholate, etc., were likewise found to react. Though Wassermann regarded this reaction at first as denoting the presence of antibodies in syphilitics and of antigens in luetic organ-extract, neither he nor his pupils in their later communications regard it in the sense of a recuperative reaction. Michaelis is of the opinion that "the Wassermann reaction does not reveal the presence of antibody against the cause of syphilis or its poisons, but some other substances which have no direct connection with the cause of syphilis, but which are found more abundantly in, or more easily extracted from, syphilitic organs than from normal ones." It is readily apparent that the lipoid element in this reaction does not depreciate its value; on the contrary, it may explain the lipoid degeneration in parasyphilitic diseases. The diagnostic value of the reaction in several thousand cases examined by the best authorities surely establishes it of distinct value, despite laboratory criticisms concerning its actual scientific foundation. In performing my tests I have employed only a few times the lipoid bodies, as lecithin, cholesterin, etc., preferring to use guinea-pig heart extract in the reaction with luetic serums.

The substances employed in the Wassermann reaction briefly[6] stated are as follows: (1) blood serum of suspected luetic (inactivated); (2) organ extract (luetic liver or guinea-pig heart macerated, extracted with alcohol and inactivated); (3) complement (guinea-pig serum, not inactivated); (4) washed sheep's blood corpuscles—sheep's blood defibrinated and washed with normal salt solution about three times, and, finally, put up in 5 per cent. and 50 per cent. strength with normal salt solution, used for dilution; (5) hemolytic serum obtained by injecting a 5 per cent. sheep's blood corpuscles into a rabbit every eight or ten days, for about four or five times; about ten days after the last injection blood is removed from heart and serum collected and inactivated.

It is absolutely imperative that, before the actual performance of the reaction, all material to be used should be tested (1) to standardize the amboceptor, (2) to see that extract does not alone anchor the complement or hemolyze the sheep's corpuscles, (3) to see that the complement is active.

In every test it is necessary to employ a few known syphilitic and as many normal serums to serve as controls for the suspecter sera. Sometimes uncertainties arise in determining the result of the reaction, but in practically every instance it is traceable to failures of sufficient controls and the proper use of materials. In doubtful reactions, a second or third test should be estimated with careful controls and using different antigens. It is not necessary to explain in detail the entire reaction, especially since there have been so many excellent articles of late written on the subject. The carrying out of this reaction, as it should be conducted, unfortunately is attended with difficulties which may discourage many who undertake it. There is no question but that a modification of the method that will furnish us an easy and accurate diagnosis is very much to be sought for. Many investigators have attempted to simplify the method, but thus far no great step has been successfully accomplished toward this end until quite recently.

Noguchi[7] describes a simplification of this test so sweeping that it practically eliminates all the technical difficulties and places it within the reach of any well-trained laboratory man. His new method is based on the same principle as Wassermann's and utilizes the Bordet-Gengou phenomenon of complement-fixation to determine the presence of syphilitic antibody in a given specimen of blood serum or cerebrospinal fluid. It is quite different from the Wassermann method, in that an antihuman hemolytic system instead of antisheep hemolytic system is used. The original Wassermann method is subject to an error arising from a varying amount of natural amboceptor found in human serum, which is capable of being reactivated by guinea-pig's complement. The Noguchi modification eliminates this source of error, since it enables one to detect the presence of even a fractional part of one unit of syphilitic antibody in a given specimen. There are two different ways of applying the test: "In one, the reagents are employed in liquid form, and in the other they are used in a dried state on filter-paper." This latter way is accomplished by saturating filter-paper, when in solution, with (1) antihuman hemolytic amboceptor; (2) the guinea-pig complement; (3) antigen (organ extract). The papers are dried and standardized.

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[3] Wassermann, Neisser and Bruck: Deutsch. med. Wchnschr., 1906, No. 32.

[4] Landsteiner, Müller and Potzl: Wien. klin. Wchnschr., 1907, No. 20.

[5] Porges and Meier: Berl. klin Wchnschr., 1907, No. 44.

[6] A more detailed account of the technic of the reaction will be found in a most excellent article by Butler: The Journal A. M. A., Sept. 6, 1908, li, 824.

[7] Noguchi: Jour. Exper. Med., March 1, 1909.

For further details Noguchi's original article[7] may be consulted. I have employed this method about fifteen times, using the reagents in liquid form.

There were a few minor points that Noguchi did not make entirely clear, but, on the whole, I had no difficulty in following it. From the little experience that I have had with the test, I can in the main confirm Noguchi's contentions with reference to the simplicity as well as to the delicacy of the test as compared with the original Wassermann. There were seven cases (of male negroes) in which doubtful reactions were obtained by the original Wassermann reaction. The modified method showed that these seven gave very positive reactions. In two cases very positive reactions were obtained, in which no history of syphilis, either acquired or congenital, could be obtained; the subjects were perfectly healthy, and their physical examination resulted negatively. The original method was negative in both cases. It is barely possible that such a test is too delicate; many more tests are necessary, however, in order to decide such a question. I have used the much simpler precipitate tests with lecithin, sodium glycocholate, taurine and other bile salts and shall discuss them in detail in another article. The precipitate tests are not considered as reliable as the Wassermann reaction. They are based on entirely different principles. The bulk of my work in the last twelve months has been with the original Wassermann reaction. They are as follows:

REPORT OF REACTIONS

Forty-six presumably healthy white men, giving no history of syphilis, were examined by the original Wassermann method. All the reactions were negative, save two which were recorded as doubtful; subsequent tests, using different antigens, still showed doubtful reaction.

1. The first case showing this doubtful test was that of a man aged 24, height 5 feet 10 inches, weight 160 pounds. He had all of the diseases incident to childhood; contracted typhoid fever at the age of 15, and smallpox at 19; he was otherwise healthy all of his life. He denied all venereal diseases. No glandular involvement or scars on genitalia or elsewhere could be discerned. He had never had sore throat. Hereditary syphilis could not be absolutely excluded.

2. The second patient, in whom a doubtful reaction was recorded, was a man, aged 20, height 5 feet 8 inches, weight 145 pounds. He had all of the diseases of childhood save pertussis; at 18 years contracted lobar pneumonia, from which he was several months in recovering. Since then he had been in excellent health. He had gonorrhea twice, but denied lues. There was no glandular involvement in any part of the body; no discernible scars on genitalia; no history of sore throat or eruptions on body. His father contracted syphilis when 19 and married at 21, only taking six months of antiluetic treatment.

Of the forty-six apparently healthy, colored male adults giving no history of syphilis, and having no scars on their genitalia or elsewhere, five gave a positive Wassermann reaction and ten gave doubtful reactions. There were two groups of the forty-six cases that were examined. The first group consisted of twenty-five negroes who lived in the country. The second group, numbering twenty-one, represented the city negro. Of the country negroes only one showed the positive Wassermann, and three the doubtful reactions. In the three cases which were doubtful by the original Wassermann, the Noguchi modification proved distinctly positive. All of these cases showed glandular involvement. In these cases I was unable to exclude hereditary syphilis. In the city negroes, numbering 21, 4 showed the positive Wassermann, while 7 gave doubtful results. The Noguchi modification proved to be positive in all seven of the doubtful cases. All of these negroes claimed to be perfectly healthy and denied any syphilitic trouble. No scars on their genitalia could be discerned. There was no history of sore throat or body eruptions. In the 4 positive cases and in 5 out of the 7 doubtful ones there was slight enlargement of the lymph nodes. The remaining two subjects were perfectly normal. Congenital syphilis could not be excluded in any of these cases.

It is evident from the above that a good percentage of the city negroes have syphilis, either acquired or congenital, and do not know it, or else their statements could not be depended on concerning this affection. In the country negro, this disease is comparatively rare as compared to the city negro.

Out of 58 non-luetic cases of various diseases, I obtained a positive reaction in two cases of advanced carcinoma, one of advanced sarcoma and one of hydrophobia, and one of profound malaria (estivoautumnal). The following is a detailed report showing the various diseases in which the reaction was tried:

3 cases	scarlet fever	negative reaction
8 cases	lobar pneumonia	negative reaction
5 cases	typhoid fever	negative reaction
3 cases	advanced tuberculosis	negative reaction
4 cases	moderate tuberculosis	negative reaction
5 cases	incipient tuberculosis	negative reaction
2 cases	advanced carcinoma	positive reaction
3 cases	malaria tertian	negative reaction
2 cases	lupus	negative reaction
2 cases	carcinoma	negative reaction
2 cases	sarcoma	negative reaction
1 case	advanced sarcoma	positive reaction
1 case	amebic dysentery	negative reaction
1 case	tetanus	negative reaction
2 cases	diphtheria	negative reaction
1 case	hydrophobia	positive reaction
2 cases	acute nephritis	negative reaction
4 cases	chronic nephritis	negative reaction
2 cases	furunculosis	negative reaction
2 cases	abscess	negative reaction
2 cases	infected gall bladder	negative reaction
1 case	malaria (estivoautumnal)	positive reaction

These cases were obtained from the Nashville City Hospital, the Vanderbilt Medical Hospital, and a few from private patients of physicians. The two carcinoma cases that gave positive reactions show the following history:

The first patient, a white woman, married, aged 57, mother of three children, had had the diseases incident to childhood; denied all venereal trouble. There was no glandular involvement or throat trouble, and no eruption on skin. One year and a half ago, a diagnosis of carcinoma of cervix was made by microscope. She is now in the last stages of carcinomatous disease. Recently her blood was withdrawn and a Wassermann reaction resulted positively.

The second patient, a white woman, married, aged 50, mother of two children, also denied all venereal trouble. There was no glandular involvement or throat trouble; no history of rash on body. The patient had pneumonia when about 22, and when about 40 years old contracted grip. She noticed a tumor in her breast two years ago, which was removed and pronounced to be carcinoma on microscopic examination. Recurrence resulted and a second operation was performed. The patient is now in the last stages of this disease, and her blood has shown on three different occasions a positive Wassermann reaction.

The third case is one of advanced sarcoma, occurring in a white man, aged 26, who had always been healthy, save for the diseases of childhood. He denied all venereal trouble. There was no glandular involvment or history of sore throat, or skin eruption. About one year ago the patient noticed a small tumor, size of hazel-nut, on inner aspect of leg. The tumor was examined by microscope, which showed sarcoma. Amputation advised but patient refused. Several months later a general sarcomatosis developed. The Wassermann reaction was positive two different times.

The fourth case was that of hydrophobia occurring in a married white man, aged 35, who had always been healthy. He denied syphilis, but said that he had had gonorrhea. He was bitten on the hand by a rabid dog; three months later developed typical symptoms of hydrophobia. After his death, I obtained sufficient amount of blood for the Wassermann test, which was positive. The case was proved to be hydrophobia by the finding of the Negri bodies in the brain, and by the inoculation test.

The fifth case was one of malaria (estivoautumnal) occurring in a white married man, aged 27, who contracted pneumonia when 18 and at 24 had a severe attack of grip. He denied syphilis, but had had gonorrhea. For the past twelve years he had malaria. When the blood was obtained, the patient was suffering from a profound attack of estivo-autumnal type of malarial poisoning, from which the patient died in two days. The Wassermann reaction was positive.

In 88 per cent. of 80 cases of active syphilis, primary and secondary, the reaction was found positive. The comparatively low positive results are due, perhaps, to the fact that three patients who gave negative reactions had received antisyphilitic treatment at the time the test was made.

I conclude by stating that more than 90 per cent. of cases of active syphilis give the reaction. The occasional reaction in other diseases lessens the diagnostic value of the test very little, if at all. The Noguchi modification is apparently more delicate than the original Wassermann. I am of the opinion that a good percentage of the city negroes of the south giving negative syphilitic histories will show a positive Wassermann reaction as modified by Noguchi, since many have hereditary syphilis.

Fifth Avenue and Elm Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. NOGUCHI, WIEDER AND L'ENGLE AND LITTERER

Dr. Maximilian Herzog, Chicago: The serodiagnosis of syphilis has certainly assumed great importance from the standpoint of the clinician. Many thousands of tests are reported from Europe, four clinics there alone reporting investigations in over 10,000 cases. What we know concerning the clinical importance of that test is based on the original Wassermann test. The modifications of this test proposed have all been shown to be defective. Dr. Noguchi referred to some remarks I made in another section when I stated I had tried the Bauer modification and had finally given it up. I did so on account of the great variability of the amboceptor-content in human serum. On the average, in a majority of cases, this variability is not so great; but there are some cases which show an enormous amount of hemolytic amboceptor, and some with none at all.

Some of the objections to Dr. Noguchi's modification that I consider valid are the following: He uses several of the substances necessary in a dry state and gives rules by which to prepare them in such a dry condition. Now, he has made the point that in his test all the quantities are known; yet I have seen in his article in the *Münchner med. Wochenschrift* the statement that non-heated human serum frequently has an anti-complemental effect as to the guinea-pig's serum complement. If, therefore, you have such a serum and have made the test, you have no hemolysis and you do not know where you stand. Dr. Noguchi's reply to this objection is that you must reduce the amount of human serum; but in this he disregards his own principle, which says that the test must be made with absolutely equal quantities. Hence, I think that it will finally be found that his test has serious defects, as have other modifications of the Wassermann test. I do not want to decry Dr. Noguchi's excellent work; but I wish to say that when we are using the serodiagnosis of syphilis for the benefit of the clinician we ought to stick, for the time being, at least, to the Wassermann test. The point that I urge against Noguchi's modification is that it will go out into the hands of the general practitioner, and everyone will believe that he can handle the serodiagnosis of syphilis. We shall then get unreliable results, and the serodiagnosis of syphilis will be discredited among practitioners. The test should be made by men with good laboratory training, who know all about the principles of hemolysis, who can meet defects and abnormalities when they do show themselves, and who are not merely going through a mechanical routine with test papers.

Dr. Frank Smithies, Ann Arbor: Without wishing to detract in the least from the ingenious device of Dr. Noguchi, I feel that I must endorse the remarks of Dr. Herzog. The commercialization and improper working of these tests by untrained persons frequently casts a good deal of doubt on the value of such a test in the minds of practitioners and the laity in general, so that I think that the work should be performed exclusively by expert laboratory men. We must admit that Dr. Noguchi has himself laid stress on this very point. My own work in connection with Dr. Cummings in 199 cases showed that 89 per cent. of known syphilitics gave positive reactions by the original Wassermann procedure; yet this reaction was obtained in other diseases. We have had it positive in pernicious anemia, cancer, Addison's disease, early measles, and tuberculosis, and in many patients who had received treatment for rabies according to the Pasteur method. We have attempted to give an explanation of its occurrence in the rabies cases in a recent preliminary report in The Journal, April 24, 1909, pp. 1330-1331. It appears to me, therefore, that while we do get a certain amount of clinical information by the Wassermann and the Noguchi tests, it is impossible, as Dr. Herzog has insisted in the present condition of our knowledge concerning the subject to entrust the work to any but experienced laboratory men.

Dr. William J. Butler, Chicago: I have investigated the precipitate reactions in conjunction with Dr. Mefford. With reference to the taurocholate and glycocholate of sodium on which we have already presented our results, we found the glycocholate of sodium conducted itself pretty well toward various sera; and while I do not wish to be put on record as believing that it is of decisive value in the diagnosis of syphilis, I think that it is not to be discredited. It gives closer information concerning the syphilis question than does any precipitate reaction, and its results parallel more or less those of the Wassermann reaction. Regarding taurin, my experience is limited. I tried it in ten cases of tuberculosis, which constitutes a good class of cases to try these reactions in. In none of the eight cases in which a positive result was obtained had we reason to suspect syphilis, so we stopped using it. Regarding the Wassermann reaction and its being found positive in other infections than syphilis, as reported by Dr. Litterer, we have all had experience in finding the reaction in other infections; and I think there are two reasons why this is so: First, there are so many sources of error in performing the reaction, that unless we adhere to pretty close lines, we are bound to fall into the mistake of making false interpretations. If we adhere to the original idea that a positive reaction is to be concluded only from a complete or almost complete inhibition of hemolysis, we shall seldom fall into error. The cases formerly termed 1 + or 2 + are gradually, in the hands of most investigators, being discarded; because there are too many sources of error in attempting to draw the lines between a 1 + and 2 + and a negative reaction. The experiments should be repeated and repeated, and the controls must come out perfect before such deductions can be made. Second, when a strong reaction is obtained, close inquiry invariably reveals a history of syphilis. The reaction is found in leprosy, occasionally in scarlet fever and noma. The point to which Dr. Herzog directs attention, namely, that human serum alone may act as an antihemolytic has, of course, been a matter of observation from the beginning of this work, and will not be eliminated by any of the modifications of the reaction that have been offered. While the modifications of Tschernogubow and Noguchi will eliminate the natural amboceptor for sheep's corpuscles, this is practically *nil* in all syphilitic serum so far as it interferes with the reaction, and on this point rests the modification advanced by Bauer.

Dr. J. J. Kinyoun, Washington, D. C.: I agree with Dr. Herzog that the Wassermann reaction should be done in the laboratory by trained men and not for the time at least be given over to the clinician. I have no fear that there will be any material departure from the methods now in vogue and it will be a long time before the clinician will undertake to do the test even if it were more simple than the modifications now proposed by Dr. Noguchi. To illustrate this point: As is well-known, a simplification of the Widal test for typhoid was made by von Ficker, which was intended to put this in the hands of the clinician, yet despite its simplicity and availability for a bedside test it has not been received with favor for practitioners. Moreover the number of requests on the laboratories where the Widal test is made has increased. Now I believe that the same will obtain for the Noguchi method, and that but few clinicians will undertake to do the test, the majority will depend on the laboratories as at present. On the whole, my observation shows the Noguchi method more delicate than the original, and sometimes I am led to believe that it is a little too delicate.

Dr. H. Noguchi, New York City: In carrying out the serodiagnosis of syphilis by complement fixation the antigen plays the most important rôle in the results. Not only the quality of the antigen should be suitable, but also the dosage of a suitable antigen should be carefully selected. An excess of antigen is to be avoided because of rendering the test unduly sensitive. Certain investigators who obtained a high percentage of positive reaction with scarlet fever or other non-syphilitic diseases (except leprosy) by using the Wassermann *method now admit that they employed unsuitable antigen* or an excess of this reagent. Should any one happen to get unduly sensitive reactions with any method he ought to reduce the dose of antigen to eliminate oversensitiveness. No one should adhere without certain trials to every dose of each reagent prescribed as the reagents may differ somewhat with the course, but he should understand the prinicples of the test and adjust the dosage according to the circumstances. The reading of the reaction is another important factor in deciding the results. It is my rule to base the diagnosis of syphilis on unmistakably strong reactions only, but never on weak reactions when the clinical diagnosis is unknown. On the other hand, I take even a faint positive reaction as a sign of active syphilitic process still present when the specimen is derived from a known luetic case. Again, for the purpose of excluding possibility of syphilis from a case I put value even on a faint reaction, no matter whether the person may seem apparently healthy or not. Thus, according to my opinion, the reactions may be utilized for three different purposes, namely, when strongly positive as a diagnostic; when weakly positive as a sign of still existing syphilitic foci in a luetic subject, and as a means of excluding syphilitic suspicion from a person. For the two last purposes there can be no objection to a very sensitive method, and, in fact, for selecting wet-nurses, recruiting for the military or naval services, choosing a donor of blood for transfusion, etc., a system which will not miss the reaction whenever there is one should be recommended. This is my answer to Dr. Litterer's reports. In regard to Dr. Herzog's question I may say that it is rare to meet with specimens containing disturbing quantity of anticomplement. If such a case should occur the anticomplement can be removed easily either by reducing the serum to be tested or by increasing the quantity of complement. My system is perfectly adjustable as each factor is separate and titratable.

Dr. Henry S. Wieder, Philadelphia: I have only to say that the fact that none of the tests are any good is shown by the fact that Dr. Butler obtained the best results from glycocholates, while we got the worst results with them. The reactions depend more on the idiosyncrasy of the patient than on the disease. In tuberculosis Butler got 8 out of 10 positive reactions depend more on the idiosyncrasy of the patient than with taurin than with anything else. The result depends on the people you encounter. I do not believe that the disease has much to do with it.

PRIMITIVE GRAPHIC SIGNS IN PULMONARY WORK

BASED ON PHONETIC VALUES

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PITTSBURG, PA.

A thing is practical in proportion to the extent of its application. Up to the present time have the graphic expressions used to denote physical signs in pulmonary cases proved to be really practical? If not, why not? That they have not been applied as extensively as they should be is conspicuously seen whenever one attends clinics and visits hospital wards. And the reason for this is largely because of the un-meaningness of many of the proposed signs.

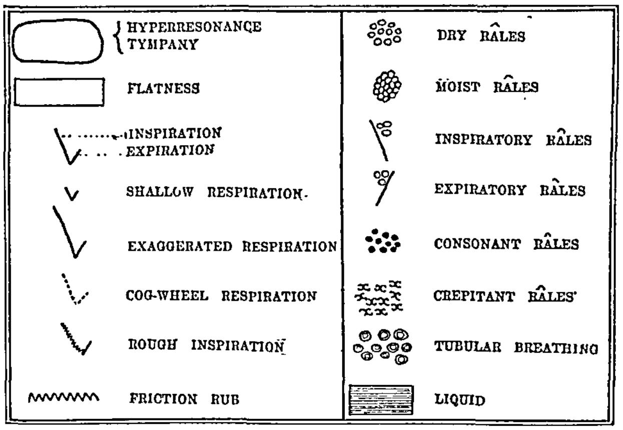


Fig. 1.—Primitive graphic signs.

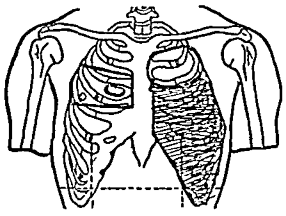


Fig. 2.—Percussion signs right side: Area of dulness enclosing area of resonance, i. e., cavity; left side: area of tympany overlying liquid.

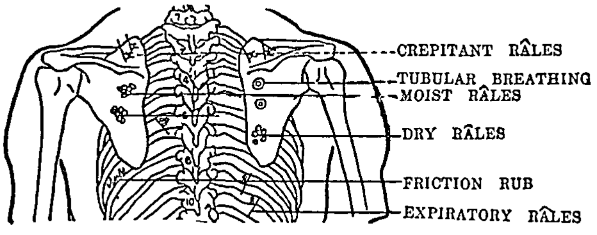


Fig. 3.—Auscultation signs.

At various clinics there have been adopted individual modifications, and in the invention of these signs the basic principle that should underlie such a system has not been sufficiently considered. The result has been that many of the signs are fanciful in proportion to the skill of their authors, and often indeed are fair representation of art for art's sake.

Unless signs are of the simplest character and have a distinct meaning of themselves they are difficult to memorize and retain. The average man on reading over a series of signs in a text-book will, within five minutes, remember but one or two out of the twenty or more; so that if he is to use them in his work he must "learn a new language." Therein lies the reason for the limited scope of their adoption.

Tyler enumerates five ways by which men communicate with each other. One of these is written signs. He says, "Signs, to be understood, must be of the natural self-expressive sort." A sign may be an imitation of the object desired to designate, or a symbol of the same; in either case its association should be readily understood. For our needs their association should be so thoroughly familiar that conscious memory should play no part in their usage. They should belong to the "unconscious memory." (Spencer.)

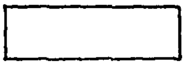
By the Chinese, and more so by the Japanese, along with the signs which originally were pictures, certain other signs are used to present sounds in their written language. With characters to express phonetic values, it is easily seen that a complete system would naturally develop as a part of such a written language. This can not be done in our writing. We may, however, adopt a system of symbols of the simplest primitive sort that is capable of entirely fulfilling the purpose for which graphic signs are intended in pulmonary work. In such a system each mark should express something definite. To this end I have carefully considered the signs that up to the present have been in use, retaining those which are true and capable by themselves of transferring a meaning to the reader of them and replacing others by new elemental signs which express the meaning intended to convey.

The first requisite for the record is a chest outline that is accurately proportioned. At the hospital we use an outline 3½x4½ inches on the history blanks, and in my private work I use the same size rubber stamp on a 4½x8 card.

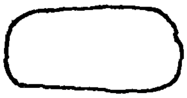
PERCUSSION SIGNS

Normal Resonance.—If the percussion sounds seem normal, there is no need for making any marks at all.

Flatness or Dulness is designated by drawing straight border lines over the limits of the involved area. The straight lines, when joined in the shape of a square or oblong, or irregular area, always suggest to the mind a block or something flat or solid.



Tympany or Hyperresonance may be shown by a curved outline over the involved area. Round outlines suggest to the mind hollowness and hollow sounds.



These are the basic signs for percussion.

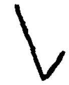
The degree of *flatness* or *hollowness* may be specified in the history or by abbreviation. In combination on chest outlines they are most suggestive. For example —an oval outline included within a square one at once suggests a hollow space in a solid body, a cavity in a solidified lung. Within these round or straight border lines can be marked the evidences of auscultation.

AUSCULTATION SIGNS

Inspiration is well represented by the down stroke of the letter V, the air rushing downward into the lung.

Expiration is shown by the up stroke, the air rushing upward out of the lung.

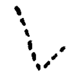
Relative Values of the sounds normally heard over the chest with *inspiration* and *expiration* are represented by a longer downward and inward stroke (inspiration) and a shorter outward and upward stroke (about one-fourth the length) for expiration. As with the resonance, normal values need not be expressed.



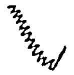
Abnormally Prolonged Expiration or Inspiration is represented by the relative increase in the length of either of the lines.

Shallow Breathing is represented by small marking.

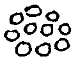
Cog Wheel Breathing is pictured by interrupted lines.



Roughness of expiratory sounds is plainly indicated by a serrated line (inspiratory in similar manner).

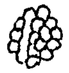


Dry Râles.—On listening carefully to chest one is impressed with the fact that dry râles seem as discrete, individual sounds. I would, therefore, represent them as discrete circles.



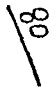
They may be large or small, or both, in proportion to their fineness or coarseness or mixture of both.

Moist Râles, on the other hand, always seem to be confluent sounds running together, as bubbles do. I would, therefore, represent them as circles joined—large or small, or both, as the physical findings suggest.

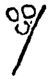


Inspiratory Râles.—These should be designated by marking the circles along the inward stroke.

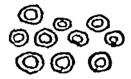
If heard at the beginning of inspiration, then at the beginning of the line; if at the end, then at the end of the line.



Expiratory Râles are designated by placing the signs at the beginning or middle or end of the outward line, corresponding, according to the judgment of the examiner, to the beginning or end of the expiratory sound.

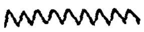


Tubular Breathing is designated by the image of a tube, a circle including a circle, a sign that is perfectly easy to make. It represents the bronchus; it suggests how tubular breathing is produced; seen on a diagram, it is an object-lesson in itself. If it is to represent the bronchial breathing of a small bronchus, the sign is a small one; if a large bronchus, the sign is made larger. The location also suggests its possible size.

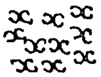


Mixed Sounds, as, for instance, when the ear detects bronchial breathing, and, at the same time moist or dry râles, are shown by the sign of each recorded side by side. This is more accurate than to have a combination sign for both; for, accurately speaking, these sounds are produced by adjacent parts of the lung and never from one spot.

Friction Rub is very well represented by the sign frequently used which represents a saw edge, or jagged rough surface. Fine or coarse sounds are easily suggested by the size of the irregular up and down stroke. The location of the sign will designate its pleuritic or pericardial origin.



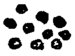
Crepitant Râle.—This sound is so important and usually of such distinctive meaning as to deserve a sign of its own.



The sign that is here shown represents the separation of the approximated alveolar walls, the manner in which we believe it is produced by the inspired air. One may also see in it the letter *c* for crepitant. This sign should accompany the inward or outward line, designating the time at which it is heard.

When it can be determined that the sound is produced by a fine pleural rub, then it should be represented by the friction sign. We already have a sign for the so-called *subcrepitant râle* that is merely a fine moist râle—and it would be well if the term itself were abolished, as its meaning is frequently confused (Bonney).

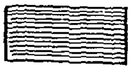
Consonance is a quality that râles possess under certain pathologic condition of the tissues out of which they emanate. This quality being largely that of increased intensity, is very well represented by having the sign of the râles appear as black dots, which convey a distinct meaning as contrasted with the circles.



The dots are discrete or confluent, according as to whether the râles seem dry or moist. A large element of personal equation enters into the interpretation of sounds possessing consonance, and, all considered, a dubious value is placed on their reliability for diagnostic inference.

The foregoing signs, if carefully considered, will each be found to correspond very closely to the underlying principle of phonetic writing, in which the picture or sign in this instance, should represent the character of the sound to be designated. Their meaning is therefore true.

Liquid is represented by a series of horizontal lines included within straight boundary lines. The outlined area is flat and, auscultatory sounds being absent, may be effaced by the horizontal lines; these also represent liquid better than any other simple sign.



This system includes the desirable elements of the various former systems of signs and in the new *ones* offers to the mind the simplest primitive forms in such a way as, once they are considered, they should be naturally retained.

4502 Fifth Avenue.

Headache Remedies.—Remedies for the relief of migraine are almost without number, but the most that can be expected of any of them is a diminution of the severity and a curtailment of the duration of the pain once the attack has become fairly established.

THE COMING REVISION OF THE UNITED STATES PHARMACOPEIA

TORALD SOLLMANN, M.D.
CLEVELAND, OHIO

The decennial convention for the revision of the Pharmacopeia will meet in Washington, D. C., on the 10th of May, 1910. The intervening time is none too long for the careful consideration of the policies which the delegates to this convention will have to determine. Their decisions will be the main factor in the fate of our Pharmacopeia, at least for the next ten years, and perhaps for much longer. The times are peculiarly favorable for effecting any necessary reforms, and it may be many years before an equally favorable opportunity will again present itself.

This convention elects the revision committee and the officers and trustees. It may also direct the scope of the Pharmacopeia and the general methods to be used in the revision. Within very wide limits, it has the power of prescribing almost any policies which it considers wise. It is, therefore, charged with very great responsibilities which should not be undertaken without serious thought and reflection. According to the constitution this responsibility is divided between the two professions of medicine and pharmacy. The constitution permits of more medical than pharmaceutical delegates, and thereby imposes the greater responsibility on the physicians. Most unfortunately, our profession has shirked its share in recent years and has turned the work over to the pharmacists. The latter have discharged their duties in a manner which should be a model to us. Accordingly we have in the Pharmacopeia a work which is a fairly representative standard of the best in modern pharmacy; but which is seriously lacking as a standard of the best in modern pharmacotherapeutics. The revision has passed into the hands of the pharmacists, because they were willing to do the work which we shirked. They merit praise, rather than reproach, for "capturing the Pharmacopeia."

AS TO ITS CAPTURE

Another reason for this capture is that the technical work of the revision requires mainly pharmaceutical rather than medical knowledge. Because of this fact it would be disadvantageous to increase materially the medical representation on the general revision committee, or to elect a clinician as editor. On the other hand, physicians should have at least an equal share in directing the general policies, and they alone should decide what substances are to be admitted to the Pharmacopeia. This is absolutely indispensable—at least, if the Pharmacopeia is to be a medical standard and not merely a compilation of pharmaceutical receipts and tests. If the latter is to be its main function, the wisest course for the medical profession would be to abandon a false position and to disclaim all responsibility. The founders of the Pharmacopeia certainly did not have this pharmaceutical conception of its scope, for in the early days the Pharmacopeia was published by the medical profession exclusively. With the discriminative evolution of the two professions, it became a wise step to place the technical matters in pharmaceutical hands. On the contrary, the simultaneous and unnecessary abandonment of a controlling voice in the direction of the general policies, and especially of the admissions, was distinctly a step in the wrong direction.

In theory we still retain this control, and it may not be too late to make it practically effective. The constitution provides for equal representation for both professions, so far as national and state bodies are concerned. It also provides that each college of pharmacy and of medicine is entitled to send three delegates. Since there are more medical than pharmaceutical schools, it was the obvious intention of this provision that the medicine should have the larger representation. This, however, is not the way in which it would work in practice. The Pharmacopeia is the "book of books" in pharmacy, with every detail of which every competent pharmacist must be thoroughly familiar, however little he may know besides. Accordingly every member of a pharmaceutical faculty would be prepared to take an intelligent interest in the revision. The case is very different with the physician. For him the Pharmacopeia is only one book, if an important one, among many others which he must study. The acquaintance of the ordinary physician with the Pharmacopeia cannot, therefore, be as intimate as that of the pharmacist. Accordingly only a small proportion of a medical faculty, as a rule, would be prepared to understand the details of the revision. While, therefore, it should be easy for every pharmaceutical school to send its contingent of delegates, it would be difficult for many medical schools to find on their faculties three men who would be willing and able to attend. This inequality could be easily remedied by reducing the number of delegates for both professions—a reform which may be supported by other weighty arguments. There is little doubt that the present size of the convention is entirely too large for the most effective transaction of its business in the brief time at its disposal.

A VICIOUS CIRCLE

After all, however, the main reason why the policy of the Pharmacopeia has passed out of the hands of the medical profession is that the latter has not exerted itself to retain the control. This, again, is due mainly to the fact that the Pharmacopeia has become so predominantly pharmaceutical in its tone and contents that it is really of minor importance to the physician. There is here a vicious circle: Physicians take no interest in pharmacopeial revision, because the Pharmacopeia does not represent their vital interests; and the Pharmacopeia does not represent their interest because they take no interest in its revision.

Let us face the issue frankly: If the Pharmacopeia is not and cannot be made practically important to the physician, then let us abandon it altogether. If it is or can be made important, then let us live up to our responsibility, break this vicious circle, and start it to revolve in the useful direction of improvement. Few will deny that the Pharmacopeia has within it the germ of the greatest practical usefulness—were it only as an instrument in putting down the evils of nostrum-quackery. In fact, the Pharmacopeia is one of the strongest potential factors in advancing scientific therapeutics—which means simple and accurate prescribing.

So far as I have been able to ascertain, the medical profession is practically a unit in believing that some radical changes are required to make this potentiality an actuality—however widely opinions differ as to the details of these changes. These differences of opinion are a most healthy symptom, for from their thorough discussion we may expect the nearest approach to perfection. It is essential, however, that the bulk of this discussion should take place before the convention meets. At the convention the time for discussion will be altogether too limited to hope for the best results. It is also essential that the delegates should be well informed and, so far as may be, united. For, while the times are propitious, we dare only hope for the best results if those who believe in the necessity of reform will present a united front. Finally, it will be necessary that the program of reform should not be vague and indefinite, but that it be presented in the form of clean-cut motions.

With this object in view—namely, of submitting a definite program for discussion—I venture to recapitulate, in the form of motions, the principles of reform which I had the honor of discussing before the Section on Pharmacology and Therapeutics at the Chicago meeting in 1908. I would refer those who are interested in the arguments to the published paper.[1]

PRINCIPLES OF REFORM

The changes which appear to me as of the first importance, from the medical standpoint, are about as follows:

A. *Reorganization of the Revision Committee.*—The complexion of the revision committee should be changed so that the present relatively large committee, with vague individual responsibilities, may be replaced by a smaller "executive committee," each member being elected directly by the convention as chairman of a given department of the revision, and thus charged directly with the full responsibility for his department. The departments are enumerated under Motion 3. Their personnel, in addition to their chairman, should consist of "associate members," whose number, selection and appointment should rest with the chairman of the department, with confirmation by the executive committee. The appointment of all the members of the admission committee, however, should be made directly by the convention. The chairman of the editorial committee should be *ex officio* chairman of the executive committee. The appointment of all the members, associate as well as executive, should be conditioned on effective work, and in case of failure should be subject to revocation by the board of trustees.

Unfortunately the election of the revision committee precedes the discussion of amendments, in the order of business of the convention. This would mean, as I interpret it, that any reforms along these lines could not be made fully effective until the next convention, in ten years—unless, indeed, the newly elected revision committee would offer the self-sacrifice of resigning in a body when such amendments are adopted. This would be by far the simplest solution of the difficulty. Otherwise the convention would need to provide a temporary makeshift by filling all the newly created positions from the revision committee which had been elected according to the old plan. This would be feasible, although more complicated.

These changes are covered by the following motions:

Motion 1.—That Article I of Chapter V (page 13[2]) of the by-laws be amended to read as follows:

"The committee of revision shall consist of (a) an executive committee, composed of the chairmen of the ten departments of revision, to be elected at the decennial meeting; (b) the associate members to be appointed by the chairman of each department with the approval of the 'executive committee' (except that the members of the 'admission committee' are to be elected directly by the convention as provided below under Article IV; (c) the president of the convention, *ex officio*.

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[1] The Journal, Dec. 12, 1908, pp. 2013-2018.

[2] The "pages" refer to the pamphlet "United States Pharmacopeial Convention," printed by order of the Board of Trustees, Washington, D. C., 1909.

"The business of the committee may be transacted by correspondence."

Motion 2.—(Required only if a revision committee has already been elected according to the old plan). That, as a temporary expedient, the chairmen of the departments for the current revision be elected from the members of the revision committee, elected according to the by-laws hitherto in force.

Motion 3.—That Article III of Chapter V (page 14) of the by-laws be amended to read as follows:

"The departments of the Revision Committee shall be the following: (1) Editorial; (2) Admission; (3) Pharmacognosy and Botany; (4) Proximate Principles and their Chemical Assays; (5) Volatile and Fixed Oils and Resins; (6) Inorganic Chemicals, Chemical Processes and Reagents; (7) Organic Chemicals (including Synthetic Products); (8) Pharmaceutical Processes and Recipes; (9) Pharmacodynamics (including Sera and Physiological Assays); (10) Therapeutics (including Strengths and Doses)."

"The chairman of the editorial department shall be *ex officio* chairman of the executive committee. He shall have the general direction of the work of revision, assign the subjects to the departments, receive and announce the votes of the executive committee, attend to the correspondence and prepare the final manuscript. It shall be his duty to present to the decennial meeting a report of the work of the revision committee. The executive committee shall elect from its members two vice-chairmen and a secretary to serve until their successors are elected."

B. *Control of the Admissions.*—This reform is of most particular interest to physicians. The present method rests on the entirely indefensible assumption that the chemist and pharmacist are the most competent judges of therapeutic usefulness. This absurd arrangement should be abolished by placing the control of admissions in a special committee elected for their special fitness for this particular purpose—by far the most delicate and complex problem with which the revision will have to deal.

Motion 4.—That Article IV (page 14) be amended to read as follows:

"The Convention shall elect the entire committee on admissions, which shall consist of a chairman and five other members, of whom at least four shall be physicians. It shall be the duty of this committee to pass on the admission of substances to the pharmacopeia, subject to any general direction which the convention may give, and to report their conclusions promptly to the chairman of the 'executive committee.'"

Motion 5.—That Article V (page 14) be replaced by the following:

"The chairmen and other members of the revision committee shall receive such compensation for their services as the board of trustees may direct. Vacancies may be filled by election by ballot by the executive committee."

C. *Nominating Committee.*—These changes will necessitate some alterations in the method of nomination:

Motion 6.—That Chapter VI of the by-laws (page 14) be replaced by:

"*Article I.*—A nominating committee of ten shall be elected by and from the delegates present at the decennial meeeting.

"*Article II.*—The nominating committee shall present one or more names for each of the elective positions for the ensuing ten years, namely, president, five vice-presidents; secretary, assistant secretary, treasurer, five trustees, chairmen for each of the ten departments, five additional members of the committee on admissions."

D. *Standards for Admission.*—In addition to these motions which affect the constitution and by-laws, the convention should express itself as to the general policies to which the revision committee should adhere. The following are of medical interest:

Motion 7.—That there be admitted to the *Pharmacopeia* only those drugs whose medicinal value and superiority are generally acknowledged, and which are in general use in the United States.

Motion 8.—That the number of official preparations of these drugs be reduced to the effective minimum.

Motion 9.—That substances which are not used directly as medicines be not admitted to the body of the book; such as are needed only for manufacturing, testing, etc., being placed in an appendix.

Motion 10.—That no substance be barred solely because its assay is complicated.

Motion 11.—That physiologic assays shall be introduced whenever they are necessary and sufficiently accurate.

Motion 12.—That patents or trade-marks shall not exclude substances which are otherwise eligible; but that great conservatism shall be practised in the admission of proprietary substances.

E. *Secrecy.*—Secrecy should be eliminated.

Motion 13.—Secrecy is undesirable in official work. The revision committee should seek advice openly, and give opportunity for the public discussion of its findings before these are officially adopted. It should therefore devise a method of preliminary publication.

F. *Frequency of Revision and Issue of Supplements.*—The Pharmacopeia should aim to keep abreast with science. Since the additions to knowledge do not occur at stated periods, but are more or less continuous, the work of revision and, if possible, the publication should aim to be continuous:

Motion 14.—That the revision committee publish its conclusions as soon as possible after they are made, and that an interval of at least four months be allowed for public discussion before the conclusions are officially adopted; that once a year, or oftener if necessary, a supplement be issued, printed in such a manner as to be readily detached and inserted in the current pharmacopeia; that each supplement become official four months after the date of its publication; that a new issue of the pharmacopeia, embodying these supplements, be printed whenever and as often as the supplementary matter is of sufficient volume and importance to justify the board of trustees in printing a revised edition. That the greatest conservatism should prevail in regard to established standards of strength and processes.

G. *Dosage.*—The legal and moral responsibility for the treatment of a patient rests on the attending physician. Since he has this responsibility, he should have the right to prescribe whatever quantity of whatever substance he deems necessary for the treatment. This right must not be abridged in any manner. As a protection against errors of interpretation, however, the physician should indicate to the dispenser whenever he prescribes intentionally an unusually large dose of potent drugs. To make this protection possible, the maximum limit of the "usual" dose of such substances should be officially defined.

Motion 15.—That the revision committee is requested to introduce into the pharmacopeia a table of official "maximum doses" of potent drugs, in addition to the average doses; that it be stated, in a prominent place, that the insertion of these maximum doses is not intended to limit the right of the physician to prescribe larger doses; but as a protection to *him*, as well as to the public and the dispenser, against accidental errors.

H. *Working Method.*—As a method of obtaining the necessary data the following may be suggested:

Motion 16.—That the following outline be transmitted to the Executive Committee for their *consideration: The* consideration of any substance to be admitted to the Pharmacopeia shall originate with the committee on admissions, which shall communicate its decisions promptly to the chairman of the executive committee. The latter shall then assign the substance to the chairman of one of the departments (*3-9*), on whom the responsibility for securing a description shall rest. The chairman of this department shall then apportion the article among his associate members, and obtain what aid he may need from the other departments, and elsewhere, and render a report to his department for discussion. After alteration and adoption by this department he shall transmit his final report to the executive committee for vote. If adopted, the therapeutic committee shall affix the dose, and the editorial committee shall prepare the description for publication, submitting proof to the executive committee and to every member of the department in which the report originated.

Before concluding I should like to state once more that I offer these suggestions at this time for the purpose of evoking discussion. I do not flatter myself with the hope that they are perfect and infallible; but it is precisely by thoughtful discussion that their weak points may be made manifest. I shall be the first to welcome any and all improvements.

HYPERTROPHIC STENOSIS OF THE PYLORUS IN INFANTS

REPORT OF CASES OCCURRING ON THE PACIFIC COAST *

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The uncertainty and conjecture surrounding every feature of this most interesting affection has induced me to contribute the following results of a study of all the known cases, occurring on the Pacific coast, of which I have been able to collect reports. This uncertainty involves not only the etiology, but the nosology, diagnosis, prognosis, treatment, and even the question of final cure. Only one thing seems positive, but that seems to be so everywhere, *that the more attention is* called to the affection, the more cases there are discovered, and all writers agree that the frequency of the affection is very much greater than the number of recorded cases would indicate.

The clear and complete description of the condition by Meltzer, of New York, at the meeting of the Association of American Physicians in 1898, and by Scudder and Quinby,[1] of Boston, leave nothing to be added in this particular by me. The symptom-complex of projectile vomiting, visible peristalsis, prominence of the epigastrium, and retraction of the lower half of the abdomen, scanty stools, and diminished secretion of urine, with or without a demonstrable tumor of the pylorus, suddenly appearing in the second or third week of life, is characteristic enough to awaken suspicion as to the nature of the affection. Koplik's recent paper has done much to harmonize the various theories and opinions regarding the nature of the disease, but I agree with Porter, of San Francisco, that so far as his classification is concerned, pure pyloric spasm should not be placed in such juxtaposition with pyloric stenosis. There is undoubtedly such a condition as pure pyloric spasm in infants, as in adults, without demonstrable hypertrophy of the muscles, either antemortem or postmortem, microscopically or macroscopically. Such a case was reported in our list—the patient was operated on for hypertrophic stenosis, but no tumor or stenosis of the pylorus was found. A gastroenterostomy was done nevertheless and the infant recovered from the operation, but died three weeks later from continuance of the vomiting. Spasm of the pylorus is far more apt to be secondary to trouble elsewhere in the gastrointestinal tract than the stomach, or a reflex from some other organ of the abdomen or pelvis, in adults and I believe also in infants, and is often a conservative effort on the part of Nature to prevent anything from passing into the intestine on account of some trouble below. A gastroenterostomy ought to and often does do harm under such circumstances, and possibly did do harm in the case of the infant mentioned. In infants I believe it will be found to occur later than hypertrophic stenosis, and to be the condition present in those cases of alleged hypertrophic stenosis, in which the symptoms begin after the first two months or so of life, and which make complete recoveries under medical treatment. The histories and symptoms of these cases ought to differ considerably from the others, and a careful study of them will, I am sure, enable a differential diagnosis to be made—the vomiting will not be so explosive or so constant, the peristaltic waves not so marked, the character of the stools different, the urine not so scanty, and the condition be more promptly relieved by medical treatment.

Our cases have thrown no new light on the etiology, but the fact has been amply demonstrated that the disease is characterized by the existence of a tumor of the pylorus, made up principally of hypertrophied muscles, both longitudinal and circular, but including as well all other structures constituting the pylorus, except the mucous membrane, as has been described by Prudden and others, and recently by Lee, of San Francisco. All pathologic examinations have shown practically the same conditions. It is incomprehensible that such a tumor, the size of an olive and as hard as cartilage, should be the result of any postnatal irritation arising in the first two or three weeks of life, when it is the fact that the condition occurs almost always in a previously absolutely healthy, strong, robust, breast-fed boy baby, and never occurs as the result of the numerous attacks of gastrointestinal disturbances in later infancy.

It is not within the scope of this paper to discuss any of the many theories for the cause of the hypertrophy, but I will dogmatically state that I believe the hard cartilaginous tumor will ultimately be found to be the result of a congenital abnormality of developmental origin, and not the result of swallowing amniotic fluid, or lanugo hairs or normal healthy mother's milk, and that its proper title will be admitted to be "congenital hypertrophic stenosis."

As certain as the fact of the existence of the hypertrophied muscle tumor is the fact of its capability of spasmodic contraction, and the degree of this spasm is not necessarily measured by the amount of hypertrophy present. In the two cases in which I operated, one patient being three and one four weeks of age, no suggestion of a lumen could be demonstrated by compressing the tumor, and there could be no doubt that the tumor was at the expense of the lumen. In the four postmortem specimens I have seen, one of them a fresh specimen, the same condition as has been repeatedly observed by others was found—a lumen reduced to a tortuous passage, one-half to three-quarters of an inch long, that would hardly admit a probe. In such cases the supervention or not of spasm is of no consequence —even when the muscle is entirely relaxed in death, the narrow lumen, filled with folds of reduplicated mucous membrane, is barely patulous. These are cases in which a tumor ought to be felt, and I think would more often be felt if repeatedly sought for, especially under an anesthetic. I think such examinations under an anesthetic are not frequently enough made, for it is of the highest importance, so far as prognosis and treatment are concerned, to determine the existence or not of a tumor. Tiny infants stand an anesthetic just exactly as well as adults, if not better, and show remarkably little after-effects. I strongly urge that such examinations be made in suspicious cases.

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* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Scudder, Charles L., and Quinby, William C.: Stenosis of the Pylorus in Infancy, The Journal A. M. A., 1905, xliv, 1665.

Not all cases are of such an extreme type, however. In most the hypertrophy is not so great, the tumor so well defined, or the lumen so narrowed. These cases fall under Koplik's second division, are the ones that cause the greatest confusion, and are the ones of which I wish particularly to speak. They are the cases in which Loretta's operation has been done with more or less, generally less, benefit. They are the cases in which pyloroplasties of various kinds have been done; they embrace the postmortem cases in which the pylorus would admit a lead pencil; they are the cases in which after death the contracted lumen has been observed to increase in size to nearly normal, and in such cases the patients may entirely recover under medical treatment, or may improve but continue to suffer in some way or other all their lives. In these a tumor may be felt at some times and not at others, and might disappear when the spasm is relaxed in profound anesthesia. They are cases in which there is congenital hypertrophy of the pylorus, but not to a degree incompatible with the passage of food, except when spasm is added, and only moderate spasm may be sufficient to cause occlusion as complete as the organic occlusion in the class of cases first mentioned, which correspond to Koplik's third division. They differ from these only in the degree of hypertrophy, and this degree can be measured, so far as our present experience goes, only by the results of medical treatment or by exploratory incision. Such, in my opinion, are the patients that Robert Hutchinson, of London, cures by daily lavage of the stomach and the administration of minute quantities of very dilute milk, and by encouraging to reach a degree of exhaustion such that there is not vitality enough left in the muscles of the infant, pyloric or otherwise, to respond to any stimulus, and then the hypertrophied pylorus will relax enough to admit food to pass it. If it continues to do so permanently, as he says is the fact in his cases, I think it is because the degree of hypertrophy in his cases has been only moderate. It is partly due to his teaching, together with that of Pfaundler, Bloch, Heubner, and others, and partly to the poor showing made by surgery from including in its statistics cases of patients moribund at the time of operation, that makes the general practitioner uncertain what course to pursue when dealing with one of these cases, and makes him postpone surgical relief till it is as plain to the parents as it is to himself that the infant is about to die.

TABLE 1.—PATIENTS TREATED MEDICALLY

	Physician.	Location.	Date.	Onset.	Result.	Remarks.
1.	Barbat.	San Francisco.	../04	3rd Week.	Died (6 weeks).	Tumor found at autopsy.
2.	Baun.	" "	2/05	3rd Week.	Recovered.	Still requires soft food. No palpable tumor.
3.	Edwards.	Los Angeles.	../05	?	Died (8 weeks).	No autopsy.
4.	"	" "	?	?	Died.	Tumor at autopsy.
5.	"	" "	4/09	*8th Week.*	*Stationary.*	*Treated one month.*
6.	"	" "	5/09	?	Stationary.	Treated few days.
7.	Farmer.	Folsom, Cal.	11/08	Birth.	Died (16 weeks).	No autopsy.
8.	Frick.	Los Angeles.	12/08	3rd Week.	Stationary.	Weighs 7¾ lbs. at 6 mos. palpable tumor.
9.	Lewitt.	San Francisco.	10/08	3rd Week.	Recovered.	Weighed 13⅜ lbs. at 6 mos. palpable tumor.
10.	"	" "	11/08	3rd Week.	Improved.	Weighs 9¾ lbs. at 5 mos. palpable tumor.
11.	Porter.	" "	../09	4th Week.	Died (11 weeks).	Collapse; tumor found at autopsy.
12.	Spalding.	" "	../09	3rd Week.	Died.	Pneumonia found at autopsy.

TABLE 2.—PATIENTS TREATED SURGICALLY

	Surgeon.	Location.	Date.	Age.	Result.	Operation.
1.	Barbat.	San Francisco.	....	3 Weeks.	*Recovered.*	*Posterior gastrojejunostomy.*
2.	Eagleson.	Seattle, Wash.	?	?	Recovered.	Posterior gastrojejunostomy.
3.	"	" "	?	?	Recovered.	Posterior gastrojejunostomy.
4.	"	" "	?	?	Recovered.	Posterior gastrojejunostomy.
5.	Krone.	Oakland, Cal.	../07	12 Weeks.	Recovered.	Anterior gastrojejunostomy.
6.	Lartigau.	San Francisco.	9/08	3 Weeks.	Recovered.	Posterior gastrojejunostomy.
7.	Stillman.	" "	3/08	4 Weeks.	Recovered.	Posterior gastrojejunostomy.
8.	"	" "	6/08	3 Weeks.	Recovered.	Posterior. gastrojejunostomy.
9.	Tait.	" "	4/07	16 Weeks.	Died.	Gastroduodenostomy.
10.	Willits.	" "	3/08	9 Weeks.	Died.	Posterior gastrojejunostomy.

I do not think that it is as well appreciated by the average medical man, or perhaps by the average surgeon, as it ought to be, that infants, particularly in the first six weeks of their life, are as well able to stand surgical operations and anesthetics, and are as tenacious of life, so far as shock is concerned, as at any other time of their lives, provided certain precautions are observed, and these are that their vitality shall not have been lowered by starvation before operation, and that their body heat shall not be lowered by exposure during operation. Adults may sometimes be reduced in weight *before operation, with impunity, but not infants.* They begin to lose almost immediately in vitality and resistance, with loss of weight. Hence the urgency in this affection of early decision as to whether a given patient should be operated on or not.

The total number of cases I have to report is 27. The records were received in response to letters sent to representative physicians and surgeons throughout the states of Washington, Oregon, and California. The earliest case reported occurred in the practice of Dr. Barbat in 1904. In 1905, 2 cases were discovered; in 1906, 2 cases; in 1907, 1; in 1908, 13, and to date this year, 7 cases; in one case the year could not be ascertained.

Of these 27 cases, the diagnosis was verified by postmortem or operation in 15. Of the remaining 12, the diagnosis in 7 was made by men of the highest standing and experience; in one of these operation was urged but refused, and the infant died. In 2 others a tumor was present. The remaining 4 I class as doubtful.

Of these patients one died, and the records were lost in the fire of 1906. One has vomited since birth at intervals of four to ten days, and is now 5 years old. One is reported cured after three years, and one is now under treatment—a very recent case. Of the 27 patients 18 recovered and 9 died.

Eleven were operated on, of whom 9 recovered and 2 died. Sixteen were treated medically of whom 9 recovered and 7 died. Subtracting from these 27 cases the 4 doubtful ones, and a case in which no tumor was found at operation, there are left 22 undoubted cases of hypertrophic stenosis.

Of these patients 15 recovered and 7 died. Ten were operated on and 12 were treated medically. Of those operated on, 8 recovered and 2 died. Of those treated medically, 6 recovered and 6 died.

Of those recovering after operation, all have remained well and are healthy normal babies in appearance. Of those dying after operation, one died forty-eight hours after, and the other after a second operation performed five days after the primary one, which was a gastroduodenostomy and failed to relieve the vomiting. Of the six recovering under medical treatment, one at the age of 5 years is obliged to live on vegetable purées and milk and meat-juice. One has been under treatment one month and one ten days only. One at the age of 5 months weighs 7½ pounds; operation has been considered, but not advised because the mortality rate in the published statistics has been so discouraging. One at 6 months weighs 13½ pounds, and one at 7 months weighs 9¾ pounds. Of those dying under medical treatment, one died of double pneumonia, one of sudden collapse two days after beginning treatment. In two cases operation was urged but refused. The ten patients treated surgically were operated on by seven different surgeons, none of whom, I am sure, would lay claim to more than average skill or experience. The patients not operated on were treated by eight physicians, not counting consultants. Of the 6 living patients, 5 have been treated along the lines laid down in the past eighteen months; 1 was discharged cured five years ago, and still requires semisolid food. Of the 6 dying, 3 had the benefit of the best modern treatment, 2 were treated four and five years ago, and in 1 the character of the treatment is unknown.

As to the nature of the operations done, of the successful 8, 7 were posterior gastrojejunostomies and 1 anterior. Of the 2 fatal cases, 1 was a posterior gastrojejunostomy and 1 a gastroduodenostomy. If to the cases of gastrojejunostomies posterior and anterior we add the case in which no stenosis was found, but in which the patient recovered from the operation and died three weeks later from causes not chargeable to the operation itself, we have 10 cases of gastrojejunostomy with 1 death. The patient on whom a gastroduodenostomy was done, and a second operation five days afterward, would probably have recovered also had a gastrojejunostomy been done. If so, the record would have been 11 cases with 1 death.

These figures do not represent the results of the work of one or two brilliant and exceptionally experienced operators, but of seven different surgeons of average experience—and their significance lies in that fact. They do not represent triumphs of surgery, but of medicine—they are less the result of surgical technic than of intelligent and enlightened judgment on the part of medical practitioners. The babies still had a chance when operated on, and they lived and are all healthy, happy, robust babies to-day.

So far as the operation of choice is concerned, it seems to me to need no argument that it should be posterior gastrojejunostomy. While not ideal, perhaps, it succeeds and can be done more safely and quickly by the average surgeon than any pyloroplastic operation. Whether the pylorus in some cases recovers its patency, and the artificial opening closes or not, does not affect the main issue at all, to my mind. The babies so treated are, within a month, all normal well-nourished babies and have continued to be, while the medically treated ones have in some cases continued apparently cured for a long time, but in most have continued to suffer in some way for many months. One of the patients reported to us, but not included in our series because of lack of early history, has had periods of vomiting at average intervals of a week since birth six years ago; his present physician thinks that even yet he may advise operation. Of the six patients said to be cured so far as vomiting is concerned, one is still restricted to semisolid food at 5 years, a second weighs only 7½ pounds at 5 months; a third 9¾ pounds at 7 months; 2 are still under treatment, and only 1 is in positively satisfactory condition. This child weighs 13⅜ pounds at 6 months. Of the 6 patients dying under medical treatment, 1 died of pneumonia and 1 of collapse from heart trouble. Was not their starved condition responsible for their inability to contend with these affections, and are not all these infants, during the many weeks and months in which they are going down hill preparatory to "rounding the corner," as Hutchinson puts it, in greater danger of their lives from some intercurrent affection, or from failure to "round the corner," than they are from death due to a timely gastroenterostomy?

Our cases are, of course, too few to draw positive conclusions from, but those collected on this side the world have been too many; I have avoided combining them, because I did not wish to spoil our record. I think a new series should be started, combining all cases since Scudder's series of 1905—perhaps limited to cases occurring in this country, and if surgeons will refuse to operate in the last-resort cases the statistics will be such, I think, as to convince both practitioner and parents that there is less to fear from a timely operation than from timorous delay. While they do not justify positive conclusions, our cases afford food for reflection, and as the result of such reflection on my own part I may say that I believe that no one who has ever actually palpated one of the hard unyielding tumors found in the class of cases first mentioned can question the necessity of operation in them, and I think that the presence of a palpable tumor is a positive indication for immediate operation, whether the infant can apparently be benefited by medical treatment or not.

I think that cases of pure pyloric spasm can, and ought to be, in most cases, differentiated from all but the most mild cases of hypertrophic stenosis, and that they should probably never be treated surgically.

I think that medical treatment should be given while there is a reasonable doubt as to the diagnosis, in cases of hypertrophic stenosis plus spasm, in which no tumor can be demonstrated, but thereafter medical treatment should not be persisted in if the infant is losing ground; that control of vomiting in these cases does not mean cure, and that gastroenterostomy does not mean cure in at least nine out of ten cases, and that it is not so much a question of necessary operation as of unnecessary suffering, danger, and death.

2101 Webster Street.

Dosage for Children.—L. C. Ager, in *Pediatrics*, states that the dosage of drugs for children can not be calculated by any comparison of body weights. Almost all drugs are relatively better borne by children than by adults; this is probably due to more rapid elimination. On the other hand, there are some drugs that must be used with great caution with children. Probably the two extremes are atropin and arsenic. No drug in any dose should be administered without a definite idea as to the result that it will produce and then the amount used should be sufficient to produce that result. Almost as much harm has been done by thoughtless and injudicious use of vehicles as by the wrong use of active drugs. A teaspoonful of the various syrups frequently administered would upset the digestion of a healthy infant. Not infrequently also children receive an excessive amount of alcohol by the use of the elixirs or some of the proprietary foods.

PERFORATED GASTRIC AND DUODENAL ULCERS

WITH A REPORT OF TWENTY-TWO CASES *

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PHILADELPHIA

It has seemed to us that a study of twenty-two cases of perforated gastric and duodenal ulcers might be productive of some conclusions worthy of attention. This collection of cases represents our entire combined experience with this interesting lesion, all cases being included, whether successful or unsuccessful. Many of our patients were operated on in the same institutions, and in all but one instance the operation was done as soon as permission for it was granted and the necessary arrangements could be made. Neither of us has declined to operate in any case of this nature which has come to our notice.

Before taking up the discussion of the cases it will be well to consider the following brief histories of them. Cases 1, 2, 4 and 5 were reported[1] by one of us a number of years ago. These histories will be given only in brief.

The cases are presented chronologically.

Case 1.—F. C., male, aged 18; Bryn Mawr Hospital; perforated duodenal ulcer; closure and drainage; Jan. 13, 1903; sixteen hours after onset; recovery. (Gibbon.)

Comment.—The interesting points in this case are the following: There was nothing in the patient's previous history which could possibly indicate a duodenal ulcer; the attacks of pain which have been spoken of were supposed to have been due to the appendix. The patient had never had attacks of vomiting, nor had he ever passed blood by the bowel.

Case 2.—T. B., male, aged 50; West Chester Hospital; perforated gastric ulcer; closure and drainage, April 7, 1903, thirty-six hours after onset; operation advised by physician eighteen hours after perforation but patient would not consent; death eleven hours after operation. (Gibbon.)

Comments.—This case is a very typical one of acute gastric perforation presenting a typical history and the characteristic symptoms. If operation had been performed when it was first advised it is altogether possible that the patient's life might have been saved.

Case 3.—J. C., male, aged 24, operated on at Jefferson Hospital for perforated gastric ulcer, April 23, 1903, five hours after the initial pain; recovery. (Stewart.)

History.—The patient had never had indigestion and was enjoying good health up to 3 p. m. of the day of admission, at which time, after eating several lamb chops and a quantity of peas, he was suddenly stricken with violent pain in the region of the umbilicus, the pain later shifting to the neighborhood of the pylorus and then becoming generalized. The entire abdomen was tender and its muscles rigid, but both these signs were most marked in the right upper quadrant. The abdomen was scaphoid, liver dulness preserved, and no dulness could be detected in the flanks. The temperature was 97, the pulse 110, the respirations thoracic, the leucocytes 19,000, and the blood pressure 235. The patient had vomited his lunch, but there was no blood in the ejected material.

Operation.—A diagnosis of perforated gastric ulcer was made and the abdomen opened through the upper half of the right rectus muscle. There was a large quantity of odorless milky fluid in the peritoneal cavity but no gas. On the anterior wall of the stomach, about one-half inch from the pylorus and nearer the greater curvature, there was an opening about one-eighth of an inch in diameter, through which milky fluid and gas bubbled when the pylorus was handled. The surrounding stomach wall was markedly indurated. The opening was closed with a double row of continuous Lembert sutures of silk, some of which tore out, owing to the friability of the stomach wall. The peritoneum was normal in appearance. A second incision was made above the pubes, the entire abdominal cavity irrigated with salt solution, a gauze drain passed into the pelvis and another just below the pylorus.

Postoperative History.—The patient was placed in the right lateral posture and fed by rectum for one week. Recovery was uneventful.

Case 4.—M. S., female, aged 17; Bryn Mawr Hospital; perforated gastric ulcer; closure and drainage; May 1, 1903, forty-eight hours after onset; death twenty-four days after operation. (Gibbons.)

Comment.—This case was one of subacute perforation with the discharge of the gastric contents into the pelvis, and but for the complication which arose two weeks after the operation the patient would have recovered. This complication was the result solely of our failure to reintroduce the pelvic packing sufficiently deep to keep up drainage. This error is one which I (Gibbon) believe frequently results in death. It is often difficult to reintroduce the packing as deep as it ought to go, and we are too frequently content to get it simply within the peritoneal cavity. I would have lost a patient with gangrenous Meckel's diverticulum from the same cause had I not performed a second operation earlier than I did in this case and re-established drainage of the pelvis.

Case 5.—I. R., male, aged 45; Pennsylvania Hospital; perforated gastric ulcer; closure and drainage; Oct. 1, 1903, nine hours after onset; gastroenterostomy eighteen months later for recurrence of symptoms; recovery. (Gibbon.)

Case 6.—J. B., male, aged 32; operated on at the Jefferson Hospital for perforated gastric ulcer, Dec. 20, 1903, four hours after the perforation; recovery. (Stewart.)

History.—This patient had suffered for about five years with severe indigestion. While walking along the street he suddenly felt "ten thousand needle-like pains" shoot through his abdomen to the back, the right shoulder and the rectum. The pain abated somewhat and he ate a meal consisting of chops and potatoes, *immediately* after which the pain became excessive, being most marked in the epigastrium and later in the right iliac fossa. He took an emetic and vomited a large amount of semidigested food. There was marked rigidity and tenderness over the whole abdomen, absence of liver dulness and dulness in the flanks. The temperature was normal, the pulse 120.

Operation.—A diagnosis of perforated gastric ulcer was made and the perforation, one-eighth of an inch in diameter, found on the anterior wall of the stomach near the pylorus. The perforation was closed with a double row of continuous Lembert sutures of silk, the abdominal cavity flushed with salt solution, a drain of gauze passed to the vicinity of the pylorus and another through a separate incision into the pelvis. In this case the appendix also was removed.

Postoperative History.—Recovery was uneventful, except for a persisting sinus in the epigastrium, which healed after discharge of the silk suture with which the perforation had been closed. About five years after the operation the indigestion returned in a severe form and was treated medically with a happy result by the patient's physician, Dr. E. Q. Thornton

Case 7.—R. H. B., male, aged 44; Bryn Mawr Hospital; perforated gastric ulcer; closure and drainage, May 30, 1904, twenty-four hours after onset; death five days after operation. (Gibbon.)

History.—A diagnosis of gastric ulcer was made several years previous by Dr. Walter Chrystie. The patient had been sick a week with gastric symptoms including hematemesis. Twenty-four hours before operation he was seized with sudden severe abdominal pain. Dr. T. F. Branson saw him nine hours later and diagnosed perforated gastric ulcer. The abdomen was board-like but there was no obliteration of liver dulness. There had been no vomiting since the perforation occurred.

Operation.—There was a large amount of extravasation into the peritoneal cavity. The liver was adherent over the upper portion of the anterior wall, and from between the liver and stomach the gastric contents could be seen escaping. There was a large perforation near the lesser curvature, about the juncture of its first and second third. Ulcer closed by two rows of silk sutures. Suprapubic incision; thorough irrigation, with the escape of a large quantity of seropurulent fluid. Both wounds drained.

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* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909. Owing to lack of space, the article is here abbreviated by condensation of the case reports. The complete article appears in the Transactions of the Section and the authors' reprints.

[1] Gibbon, J. H.: Am. Med., Dec. 19, 1903.

Postoperative History.—The patient did well until his second day, when he developed delirium tremens and died on the fifth day from this condition. His abdominal condition was perfectly satisfactory, but as there was no autopsy it was impossible to say what would have been the outcome but for the delirium tremens.

Case 8.—L. F., male, aged 27; operated on at the Jefferson Hospital for perforated duodenal ulcer, May 8, 1905, five hours after the perforation; recovery. (Stewart.)

History.—This man had had severe indigestion for one week. Immediately after drinking a large quantity of beer he experienced violent epigastric pain which radiated to the right shoulder and quickly spread over the entire abdomen. This was associated with great rigidity and tenderness; the liver dulness was undiminished, and no fluid could be demonstrated in the flanks. The temperature was normal and the pulse 90 and strong.

Operation.—A diagnosis of perforated gastric ulcer was made and the abdomen opened through the upper right rectus muscle. There was no extravasation of stomach contents, except a little mucus. The perforation was on the upper surface of the duodenum close to the pylorus and was about one-eighth of an inch in diameter. It was closed with silk, the abdominal cavity irrigated, and a small gauze drain placed in the wound.

Recovery was uneventful.

Case 9.—A. Z., male, aged 30; operated on at the Pennsylvania Hospital May 28, 1905, for perforated duodenal ulcer, twenty-four hours after the perforation; death within twenty-four hours. (Stewart.)

History.—The patient had been ill for twenty-four hours with severe abdominal pain and vomiting. There was general tenderness and rigidity over the abdomen, most marked, however, in the upper right quadrant; this with absence of liver dulness, led to a correct diagnosis. The temperature was 101, the pulse 140.

Operation.—An incision was made through the upper right rectus and a perforation found on the anterior wall of the duodenum near the pylorus. There were a number of adhesions and the peritoneal cavity was filled with pus and gastric contents. The perforation was closed with silk, the abdominal cavity irrigated and drained.

The patient died the following day.

Case 10.—W. W. H., male, aged 33; Pennsylvania Hospital; perforated gastric ulcer; closure and drainage, December 29, 1905, five hours after onset; recovery. (Gibbon.)

History.—The patient was seen with Dr. J. Norman Henry three hours after the sudden onset of severe abdominal pain, not relieved by 1/2 gr. of morphin. The abdomen was scaphoid and extremely rigid. The pain extended to the back and to the right shoulder. There was nothing in the previous history that threw any light on the case. The severe character of the pain and its radiation to the shoulder suggested gall-stone colic. The patient had never vomited blood or passed blood by the bowel.

Operation.—Immediate operation was done. Gas escaped as soon as the peritoneum was opened, making a diagnosis of perforation certain. The gas was followed by a large quantity of the gastric contents. The dissemination of this material was very general. A perforation was found on the anterior surface of the first portion of the duodenum; it was large and surrounded by considerable cicatricial tissue. Perforation closed with one row of catgut sutures reinforced with a portion of the lesser omentum. Suprapubic incision made and abdomen thoroughly irrigated. Both wounds drained.

Postoperative History.—The patient made a good recovery. He was fed by rectum until the eighteenth day, and is at the present time perfectly well.

Case 11.—E. F., female, aged 22, operated on at the Germantown Hospital, May 2, 1906, for perforated gastric ulcer, sixteen hours after the perforation. Recovery. (Stewart.)

History.—This patient had been treated for several years by Dr. R. P. Cummings for indigestion, associated with severe pain after eating and occasional attacks of vomiting. About sixteen hours before operation there was very severe pain in the abdomen, particularly in the right iliac region, but the greatest tenderness was in the left epigastrium. The abdominal muscles were rigid, the liver dulness normal, and no dulness in the flanks. The temperature was 99, the pulse 100, the leucocytes 24,000.

Operation.—A correct diagnosis was made and the stomach exposed through a median epigastric incision. A perforation ¼ inch in diameter and adherent to the anterior abdominal wall was found in the anterior wall of the stomach. There was no generalized peritonitis. The ulcer was closed with silk sutures and a posterior gastroenterostomy performed. The upper abdomen was irrigated and the abdominal wound closed without drainage.

The patient recovered and has remained well.

Case 12.—P. C., male, aged 29, operated on at the Pennsylvania Hospital, Oct. 27, 1906, for perforated gastric ulcer, twelve hours after the perforation; recovery. (Stewart.)

History.—This man had complained of indigestion for a number of months, a gnawing pain appearing in the region of the pylorus about two hours after eating and being relieved by eating. On the day of admission after breakfast the pain became excessive and radiated to the back and shoulders. This was associated with marked rigidity of the abdominal muscles. The liver dulness was normal and there was no dulness in the flanks.

Operation.—About twelve hours after the onset of the pain the abdomen was opened through the upper right rectus muscle and a perforation, 1/16 of an inch in diameter, found in the anterior wall of the stomach, near the lesser curvature and close to the pylorus. This was closed with silk sutures, and as only the peritoneum of the upper abdomen was soiled the foot of the bed was raised; a gauze drain was passed to the region of the perforation.

Recovery was uneventful, but about one year later there was recurrence of the indigestion.

Case 13.—McA., male, aged 45; Jefferson Hospital; perforated gastric ulcer; closure and drainage; Jan. 23, 1908; twenty-four hours after onset; death forty-eight hours after operation. (Gibbon.)

History.—The patient on admission to hospital was thought to be suffering from gall-stone colic and was treated for such. For ten days previous to admission he had suffered pain after eating. The family physician, Dr. Elinor Jones, reported that she had treated him several years previous for severe gastric symptoms. He was seen first eighteen hours after his admission when he had a board-like abdomen but no obliteration of liver dulness. His temperature was 97 and pulse very weak and about 104. The diagnosis of general peritonitis, due to perforated gastric ulcer, was made.

Operation.—The patient was in very bad condition with no pulse at the wrist. As soon as the peritoneum was opened gas escaped, followed by a profuse discharge of dark, thick fluid. The abdomen was so filled with this that two pitcherfuls of salt solution had to be used to wash it out before any structure could be recognized. The perforation, ¼ inch in diameter, was in the anterior wall of the pylorus; the ulcer being an old one. The perforation was closed with one row of linen thread sutures; a suprapubic incision was made; the cavity thoroughly irrigated; and both wounds drained. During the operation one quart of salt solution was injected intravenously.

Postoperative History.—The patient received the Murphy treatment for general peritonitis. He improved during the first twenty-four hours but grew worse the next day and died at 6 p. m.

Case 14.—B. S., female, aged 30, operated on at the Jefferson Hospital, April 9, 1908, for perforated gastric ulcer, three days after the perforation; death in thirty-six hours. (Stewart.)

History.—Mrs. S. developed excruciating epigastric pain three days before admission; this quickly became generalized and was followed by symptoms of peritonitis. There was continuous vomiting, marked distension of the abdomen, great pallor, and a pinched face. The temperature was 101 and the pulse 140 and thready. A mass was found in the right iliac region both on external and vaginal examination. This was afterward found to be due to adhesions among the intestines. A diagnosis of peritonitis, probably the result of a ruptured appendiceal abscess, was made.

Operation.—The appendix was removed and found to contain a segment of a tapeworm, but there was only slight inflammation of the mucous membrane. A second incision was made in the epigastric region and a hard mass about 2 inches in diameter and 2 inches from the pylorus found on the lesser curvature of the stomach; in the center of this indurated area was a minute perforation. The whole ulcer was inverted with silk sutures. There was a large quantity of purulent exudate throughout the abdominal cavity. After irrigation a gauze drain was placed in each wound.

Death occurred thirty-six hours later.

Case 15.—G. G., male, aged 42, operated on at the Polyclinic Hospital, July 14, 1908, for perforated duodenal ulcer, five hours after the onset of pain; recovery. (Stewart.)

History.—The patient had suffered with indigestion for several months. Just before supper he felt a severe knife-like pain in the epigastrium, shooting to the right shoulder and later to the right iliac fossa and throughout the abdomen. The tenderness was most marked in the epigastric region. The liver dulness was normal and there was no dulness in the flanks. The abdominal muscles were tensely contracted, the temperature normal, the pulse 110, leucocytes 15,000. There had been no vomiting.

Operation.—A diagnosis of perforated gastric ulcer was made and the abdomen opened through the upper right rectus muscle. There was a generalized serous peritonitis and a perforation about ⅛ of an inch in diameter in the anterior wall of the duodenum ¼ of an inch from the pylorus; this was inverted with silk sutures and a portion of the gastrohepatic omentum fixed over the suture line, owing to the friability of the duodenal wall. The peritoneal cavity was irrigated and the pyloric region drained with gauze.

Recovery was uneventful.

Case 16.—J. C., female, aged 60, was operated on at the Germantown Hospital, Aug. 11, 1908, for perforated gastric ulcer, four hours after the perforation; death in thirty-six hours. (Stewart.)

History.—Mrs. C. had had indigestion for a number of years and felt as if there was some obstruction at the pylorus. During the week before operation there had been epigastric pain and daily vomiting; blood was detected in the stools once. At 1 a. m. she was wakened from sleep with severe abdominal pain which was referred to the right iliac region. There was marked collapse, great rigidity of the abdominal muscles, and absence of liver dulness. The patient was seen with Dr. Edward Rhoads.

Operation.—A diagnosis of perforated gastric ulcer was made and the abdomen opened through the upper right rectus muscle. There was a large quantity of bloody fluid in the peritoneal cavity. The pylorus was hard, the induration extending 2 inches along the upper surface of the duodenum. There was a perforation just to the gastric side of the pylorus, about ¼ of an inch in diameter, with a piece of sloughing omentum plastered over it. The perforation was closed with silk sutures, and a posterior gastroenterostomy performed because of the narrowness of the pylorus and the previous obstructive symptoms. Owing to the extensive induration and the age of the patient a piece of the ulcer was excised for microscopic examination; no evidence of carcinoma was found by the pathologist. The abdominal cavity was flushed with salt solution and the right kidney pouch drained.

The patient vomited a large quantity of dark blood after operation and died at the end of thirty-six hours.

Case 17.—W. B., male, aged 20, was operated on at the Jefferson Hospital, Sept. 12, 1908, for perforated duodenal ulcer, twelve hours after the perforation; recovery. (Stewart.)

History.—The patient had never had indigestion or abdominal pain up until two weeks before operation, when he began to complain of pain about the umbilicus, more marked after eating. Twelve hours before operation the pain became intense and shifted to the right iliac region. At the time of examination there were evidences of a generalized peritonitis which seemed to be most intense in the region of the appendix. The liver dulness was normal and there was no dulness in the flanks. The temperature was 101, the pulse 100 and the leucocyte count 12,000. There had been no vomiting.

Operation.—A diagnosis of appendicitis was made and the appendix removed through a McBurney incision. It was normal except for the presence of several concretions. There was a large quantity of purulent fluid in the abdomen and adhesions could be felt about the pylorus. A second incision was therefore made in the epigastric region and a perforation ¼ of an inch in diameter found in the anterior wall of the duodenum near the pylorus. After peritoneal lavage a gauze drain was placed in each wound.

The patient made an uneventful recovery.

Case 18.—G. R., male, aged 48, was operated on at the Germantown Hospital, Oct. 12, 1908, for perforated duodenal ulcer, three days after the perforation; death in five hours. (Stewart.)

History.—There was no history of indigestion. The illness began with a sharp pain over the lower ribs on the right side, the pain being reflected to the back. The temperature was subnormal at this time; twenty-four hours later the patient developed a cough with mucous expectoration. The respirations were 40 and at the end of each there was acute pain in the mid-axillary line on a level with the fifth and sixth ribs, at which point a loud friction sound could be heard. The right chest expanded less than the left and there was dulness from the fourth interspace to the costal margin in the mid-axillary line, with impaired vocal fremitus and resonance. Numerous small râles could be heard over both lungs. The upper right rectus was moderately rigid but there was no tenderness in this area. The liver dulness was undiminished and no fluid could be detected in the flanks; the temperature was 100. We saw the patient at this time and thought the condition to be a beginning pneumonia. The following day there was marked improvement but on the third day the patient began to vomit quantities of dark fluid and passed a small quantity of bloody mucus by bowel. At this time we were asked to see the patient again. There was marked distention of the abdomen, absence of liver dulness, fluid in the flanks, no rigidity, and very little pain and tenderness over the abdomen. The leucocytes were 10,000, the pulse 90 and of poor quality, and the expression bad.

Operation.—It was thought that there was some intestinal obstruction or possibly a thrombosis of the mesenteric vessels, but owing to the seat of the initial symptoms the abdomen was opened through the upper portion of the right rectus. The liver was found pushed back by an enormous quantity of gas and foul black fluid. In the descending portion of the duodenum a perforation about ½ inch in diameter was found adherent to the under surface of the posterior and outer edge of the liver. It was exposed with great difficulty, sutured with silk, and covered with an omental graft. Irrigation was omitted and a large gauze drain passed down to the region of the perforation.

The patient died five hours later.

Case 19.—T. H., male, aged 43; Jefferson Hospital; perforated gastric ulcer; closure and drainage, Dec. 23, 1908, twenty-six hours after perforation; death fourth day after operation. (Gibbon.)

History.—The patient was seen with Dr. E. E. Graham. He gave a history of occasional attacks of indigestion but never vomited. Twenty-six hours before the operation he was seized with sudden severe abdominal pain. At the time of the operation much of the rigidity had disappeared, being displaced by a distention of the lower portion of the abdomen. He had all the evidences of an extensive peritonitis, and from its sudden onset was thought to be due to a perforation of the intestinal tract.

Operation.—Gas escaped as soon as the abdomen was opened. The pelvis was filled with thick pus. The appendix was removed and a second incision was made above the umbilicus. A perforation one-eighth of an inch in diameter was found near the lesser curvature, about one inch from the pylorus. Perforation was closed with a continuous gut suture, and both wounds drained.

Postoperative History.—The patient did remarkably well for three days but died on the fourth from a spreading peritonitis.

Case 20.—J. T. F., male, aged 50; Jefferson Hospital; perforated gastric ulcer; closure, posterior gastroenterostomy, drainage, March 7, 1909, seven hours after onset; recovery. (Gibbon.)

History.—The patient had had stomach trouble for twenty years. History was typical of gastric ulcer. The patient was seen first two hours after the sudden onset of severe pain, unrelieved by ¼ gr. of morphin given by his family physician, Dr. Himmelwright. Patient was anemic; his abdomen was scaphoid and of board-like rigidity; liver dulness was absent. The diagnosis of perforated gastric ulcer was easy.

Operation.—As soon as the peritoneum was opened there was an escape of gas. The perforation, measuring 1 inch in diameter, was found in the anterior wall of the pylorus. The ulcer extended all the way around the pylorus, and when the perforation was closed with a suture of gut and one of linen thread, the pylorus was completely obstructed. In the belief that there was probably a perforation on the posterior wall the lesser peritoneum was opened but no perforation was found. Because of the obstruction of the pylorus a posterior gastroenterostomy was done. When anastomosis was complete thirty-five minutes had been occupied in operation. A suprapubic incision was made, the cavity irrigated, and both wounds drained.

Postoperative History.—The patient was placed in the sitting posture and given the Murphy treatment. He made a prompt recovery and has remained well until the present time.

Case 21.—J. G., male, aged 53, was operated on at the Pennsylvania Hospital, April 10, 1909, for perforated gastric ulcer, seventeen hours after the perforation; recovery. (Stewart.)

History.—This patient had slight indigestion for several weeks previous to admission. Seventeen hours before operation and just before supper he was seized with a severe pain about the umbilicus which quickly became generalized. The temperature was 100 and the pulse 130; vomiting did not occur. The abdominal muscles were moderately rigid, although a large dose of morphin had been given. The tenderness was most marked in the right iliac region, leading to a diagnosis of appendicitis.

Operation.—The appendix was found to be normal and the peritoneal cavity filled with a purulent fluid. Adhesions could be felt in the right hypochondrium and a second incision was made in the epigastrium. This liberated a large quantity of air and pus and revealed a perforation one-eight of an inch in diameter in the anterior wall of the stomach near the pylorus. This was closed with silk, the peritoneal cavity irrigated with salt solution, and both wounds drained with gauze.

Recovery was uneventful.

Case 22.—W. P., male, aged 36; Jefferson Hospital; perforated gastric ulcer; closure, posterior gastroenterostomy; May 4, 1909, some days after onset; death twenty days after operation. (Gibbon.)

History.—The patient was admitted to the hospital suffering from an extensive peritonitis; very weak, with rapid pulse, and subnormal temperature. The abdomen was scaphoid and rigid, and liver dulness partially obliterated. The patient had been in bed three weeks suffering from nausea and vomiting. He was operated on one hour after admission. The time of perforation is indefinite but the patient had been suffering a great deal of pain for several days. His history indicated gastric ulcer.

Operation.—Gas escaped as soon as the peritoneum was opened and there was an extensive extravasation of the gastric contents. Perforation three-eighths of an inch in diameter was found in the pylorus; its edges were everted and hard; its closure, with one row of catgut sutures, nearly completely closed the pylorus and therefore a posterior gastroenterostomy was done. A suprapubic incision was made, cavity irrigated, and both wounds drained.

Postoperative History.—The patient was given the Murphy treatment and did well for two weeks, he then began to develop symptoms of septic infection and died on the twentieth day.

Autopsy.—The left chest was filled with pus and the lung was necrotic. There were a number of small collections of pus in the abdomen and a suppurating focus in each kidney.

PATHOLOGY

In these 22 cases the perforation occurred in the anterior wall of the stomach near the pylorus in 15 and in the anterior wall of the first portion of the duodenum in 7. The size of the perforation varied from 1/16 to ½ inch in diameter. It is our be[illegible] [illegible]l perforations are minute in the [illegible] they rapidly enlarge. Induration, indicating chronicity of the ulcer, was present in all of our cases. In three cases (4, 16 and 22), in which there had probably been a slow leak and then a sudden and profuse outpouring of the gastric contents, the perforation was large and the edges were thick and everted.

The extravasation has varied very much both in character and extent and depends largely on the acuteness and duration of the perforation. In the operations done in the early stages the extravasation consisted of the gastric contents. In the later stages it was found mixed with serum and pus. In only one case was the extravasation bloody. Plastic lymph was usually present about the site of the perforation, and in the delayed cases was often found about the ascending colon, cecum and small intestine occupying the pelvis. In one or two cases the appendix was covered with lymph, and but for a careful search would have caused the operator to think that here was the primary cause of the peritonitis.

In the large majority of the cases gas was free in the abdominal cavity and escaped the moment the peritoneum was opened.

SYMPTOMS AND DIAGNOSIS

In most of the cases a correct diagnosis was made before operation, and in all the symptoms were sufficiently urgent to demand immediate operation. In one case (18), owing to the atypical symptoms presented, the condition was not recognized at once. The following are the diagnoses made in these cases before operation: perforated gastric or duodenal ulcer, 15; acute appendicitis, 4; diffuse perforative peritonitis, 2; pneumonia and obstruction of the bowels, 1. It will be observed that the condition is most frequently mistaken for acute appendicitis. The history of previous indigestion extending over a long period; attacks of pain in the epigastric region, with vomiting; melena and more or less constant pain after eating, will aid greatly in turning attention to the stomach. In the slow perforations and early in the acute ones the extravasated material passes down the right side of the abdomen over the omentum or to the outer side of the colon to the right iliac fossa, and here gives rise to pain, tenderness and rigidity. Acute tenderness and rigidity is always present over the site of the perforation, however. The most typical history of the attack is that of a sudden severe pain, but little influenced by sedatives and accompanied by a board-like and scaphoid abdomen. Later with the diffusion of the peritonitis the abdomen becomes distended. With such a history and these signs alone perforation should be suspected and after the elimination, as far as possible, of other conditions, immediate operation should be done. Severe pain, tenderness and rigidity were present in all of our twenty-two cases. The pain is usually epigastric in the early stages and is apt to radiate to the back and sometimes to the right shoulder-blade, making confusion with biliary colic possible (see Case 13). Often the pain and tenderness later become most marked in the right iliac fossa, as the peritoneum in this situation becomes involved in a beginning and intense inflammatory process. The rigidity early becomes general in the acute cases and is absolutely board-like. The scaphoid and rigid abdomen constitutes one of the most marked and valuable signs of perforation and continues until the peritonitis becomes so far advanced as to produce distention.

The mistake is often made of expecting distention of the abdomen at the onset when there is a perforation of the stomach as the result of the escape of gas. Distention is never present in the early stages, and when present it indicates an extent and degree of peritonitis from which patients will seldom recover.

The absence of liver dulness associated with a scaphoid and rigid abdomen is an invaluable sign of perforation. When the abdomen is distended the diminution or absence of liver dulness is of little value. The preservation of normal liver dulness is no indication that perforation is not present. The liver dulness was diminished or absent in 6 of our cases; was normal in 9, and not recorded in 7. Movable dulness in both flanks was present in 3 cases, was absent in 7 and not recorded in 12. Vomiting after perforation had occurred took place in 12 cases; did not occur in 6 and was not recorded in 4. Vomiting of blood occurred in 2 instances.

Collapse is of variable occurrence and should not be expected. It takes place early and may be profound. It is by no means common, and its absence is of little significance.

Arrest of intestinal peristalsis, as determined by auscultation, occurs only after the peritonitis is sufficiently advanced to produce paralysis of the intestine. It may be a diagnostic aid, but is not a very reliable sign of perforation.

The temperature in the early stages is usually normal, subnormal or but slightly elevated. Even in the later stages it is a mistake to expect high temperature, although it may occasionally occur. The pulse-rate is usually increased, and the pulse may be very weak if collapse is present. The respiration is entirely thoracic and shallow and the respiratory rate is increased.

Leucocytosis was not marked in the early stages in this series of cases, although in some of the advanced cases it amounted to 24,000. We would say that little dependence can be put on the leucocyte count in making a diagnosis in the early stages of perforation. In practically every case the symptoms are sufficiently urgent to demand immediate operation, and no delay should be made for the study of the blood, although, when possible, this examination should be made without delay. The history of the patient may be of great value in determining the cause of the peritonitis. It is important to question him regarding stomach symptoms, especially the occurrence of pain coming on at a fixed period after eating or coming on at night after retiring. A history of vomiting and eructations of gas are significant. Often the patient will say that for years he has had indigestion or dyspepsia. In two of our cases a definite diagnosis of gastric ulcer had been made before perforation took place; six patients had been treated for "stomach trouble"; and in several others the symptoms were sufficiently significant to have indicated ulcer. A history of indigestion was present in 16 of our cases; was not present in 4 and could not be determined in 2. Melena sometimes occurs without other symptoms of ulcer and it should be inquired for carefully. A history of melena was given in 4 of our cases.

Age and sex are of no diagnostic value, but it is interesting to note in regard to sex that, although gastric ulcer has until recently been considered more frequent in women than in men, yet in these 22 cases of perforation there were 18 men and 4 women. As regards age our youngest patient was 17 years old and our oldest 60 years. Between 17 and 30 years, inclusive, there were 9 cases; between 31 and 40, 4 cases; between 41 and 50 years, 8 cases, and between 50 and 60 years, 2 cases.

The immediate cause of perforation may be very difficult to determine. In a few cases, however, it may be quite apparent. Any force either from within or without the organ which increases the tension of its walls may be the determining cause of perforation. In one of our cases the perforation occurred when the patient was lifting a buggy; another occurred after drinking largely of beer, and in several cases reported by others perforation has occurred after drinking a carbonated water.

TREATMENT

From our experience in these cases we are convinced that success or failure in the treatment of perforated gastric or duodenal ulcer depends almost entirely on the time which elapses between the perforation and its operative repair. Of the 13 patients operated on within seventeen hours, all but one recovered, while the remaining 9, all operated on after twenty-four hours, died. These figures are striking and significant and, moreover, are in fair accord with those presented by other operators. Occasionally, of course, one may be able to save a patient after one, two or even three days, but these will usually be cases of subacute perforation. The first point, therefore, in the treatment which we would emphasize is the importance of operating as soon as those early symptoms, already enumerated, of perforative peritonitis present themselves, whether or not we are able to make a definite diagnosis of their cause.

The abdomen should be opened through the right rectus above the umbilicus, an incision which gives the easiest and widest access to the viscera probably involved. If by chance an incision has been made below the umbilical line it is better to make another one above than to increase the first until the stomach and duodenum can be reached. The first incision should not be closed until the necessity for drainage of the pelvis has been determined by the extent and character of the exudate. If the symptoms have led the operator to make the lower incision and he finds the pelvis filled with exudate and an appendix or a Fallopian tube involved in the inflammatory process, but not in such a condition as to account for the extensive peritonitis, and especially if free gas is present, he should at once turn to the duodenum and stomach and assure himself that a perforation has not occurred. We know of one instance, at least, in which this mistake has been made and, therefore, warn against it.

The perforation having been found, it should be rendered as accessible as possible and closed. The method of closure must vary with the character of the ulcer and especially with the degree of induration about the perforation. In the simple cases with little induration a continuous suture may suffice, while in other cases the most carefully placed interrupted sutures may result only in an unsatisfactory closure because of the friability of the tissues through which they pass. These are the cases in which an omental graft will be useful. The sutures should be of the Lembert type and placed well beyond the edge of the perforation. A second row of sutures may seem to be indicated and should be used if they can be introduced without too much constriction of the caliber of the pylorus or duodenum. If the constriction is too great, then a portion of the lesser or greater omentum should be stitched over the first row of sutures. We have never employed excision of the ulcer and believe it to be unnecessary. The suture material employed in this series of cases has varied; one of us (Stewart) preferring to use silk and the other (Gibbon) chromicized or iodized catgut for the first row and linen thread for the second or linen thread alone if but one row is inserted. At this point the surgeon should assure himself that there is not a second perforation. In searching for the second perforation, however, one is not justified in opening the lesser peritoneal cavity for the purpose of examining the posterior wall of the stomach unless there is some distinct indication of a second perforation in this region.

The perforation having been satisfactorily closed, the next step in the operation is the toilet of the peritoneum. The question of irrigation at once arises and must be determined by the extent and character of the exudate. In all but one of our cases more or less irrigation was done. We believe that in the early cases with little extravasation simple cleansing with limited irrigation or moist sponges will suffice. When the extravasation is purulent or extensive, irrigation should be more or less general. It is a good plan to pour the irrigation fluid into the upper incision and allow it to flow into the pelvis and then out through a tube placed in the suprapubic wound. In this way the irrigation takes the course of the extravasated gastric contents. Evisceration is never indicated, and irrigation of every part of the abdominal cavity when the extravasation is limited to the right side and pelvis is a mistake. Drainage is necessary except in occasional cases of early perforation with little and limited extravasation. Drainage at the site of the perforation was employed in twenty-one of our cases and a pelvic drain also used in fifteen of these. In one of the successful cases no drainage was employed.

Gastroenterostomy may be indicated in addition to closure because the pylorus or duodenum has been shut off by closure of the perforation. We believe that this alone should be the indication for gastroenterostomy. In four of our cases a gastroenterostomy was done; in three because of the closure of the pylorus, and in the fourth with the idea of curing the ulcer. Two of the patients recovered and two died. In none of these could the result, either cure or death, be attributed to the gastroenterostomy. One of our main reasons for opposing gastroenterostomy in cases of perforation is that with proper after-treatment a cure can be obtained in nearly all of the cases. Even with considerable constriction of the caliber of the pylorus, liquids will pass and the tract will open up later, with the healing of the ulcer, to its normal capacity. There are distinct objections to performing a gastroenterostomy in the presence of a perforative peritonitis. In the first place, it prolongs the operation at least twenty minutes and it opens up to infection the clean lesser peritoneal cavity. Of course, there is some comfort after the patient has recovered in feeling that a gastroenterostomy has been done, but the justification for it in the majority of cases is very questionable. A subsequent gastroenterostomy may occasionally have to be done because of a recurrence of the symptoms. This was true in one of our twelve cases of recovery.

The after-treatment of these patients varies little from that in any case of peritonitis, excepting that rectal feeding is indicated in all cases in which closure without gastroenterostomy is done. It will be noticed that in our earlier cases we confined the feeding entirely to the rectum for a long period, but that in the more recent cases liquid nourishment was allowed by the mouth at a much earlier period without any marked difference in the results. Large quantities of salt solution by the rectum were used in the cases in which the peritonitis was extensive or of long standing.

The question of posture is one about which surgeons will probably always differ as we do. One of us (Stewart) believes that the right lateral posture is the one always to be preferred. The posture must be influenced to some extent by the situation of the drains. Where drainage at the site of the ulcer only is employed Stewart has used always the right lateral position and occasionally elevated the foot of the bed. Where a pelvic drain has been used Gibbon has always employed the Fowler position or some modification of it.

RESULTS

The results obtained in these cases may be divided into immediate and ultimate. In the twenty-two cases reported there have been ten deaths (all but one occurring in cases of operation more than twenty-four hours after the perforation) and twelve recoveries, all of patients operated on within seventeen hours after the perforation. In two of the fatal cases life was prolonged for three weeks. The table shows the time of operation and the results.

TABLE OF TIME OF OPERATION AND RESULTS

Case.	Time Between Perforation and Operation.	Cured.	Died.	Time of Death After Operation.
1.	16 hours.	1		
2.	36 hours.		1	11 hours.
3.	5 hours.	1		
4.	48 hours.		1	24 days.
5.	9 hours.	1		
6.	4 hours.	1		
7.	24 hours.		1	5 days.
8.	5 hours.	1		
9.	24 hours.		1	24 hours.
10.	5 hours.	1		
11.	16 hours.	1		
12.	12 hours.	1		
13.	24 hours.		1	48 hours.
14.	3 days.		1	36 hours.
15.	5 hours.	1		
16.	4 hours.		1	36 hours.
17.	12 hours.	1		
18.	3 days.		5	5 hours.
19.	26 hours.		1	4 days.
20.	7 hours.	1		
21.	17 hours.	1		
22.	Some days.		1	20 days.
		12	10	

The causes of death open up an interesting subject. Six of our ten deaths occurred within about forty-eight hours, presumably as a result of the peritonitis; one patient died twenty days after operation from general sepsis, pus being found postmortem in the pleura, abdomen and both kidneys; another died on the fourth day from an extension of the peritonitis; another on the twenty-fourth day after the perforation and seven days after a second operation done for obstruction, the result of a pelvic abscess; still another died on the fifth day from delirium tremens, the abdominal condition being satisfactory.

Except in one case in which a gastroenterostomy was subsequently required, all but one of the twelve patients who recovered have remained well. This one patient developed gastric symptoms some time after his operation, but these disappeared under medical treatment.

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ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. STILLMAN AND GIBBON AND STEWART

Dr. W. J. Mayo, Rochester, Minn.: When I began the practice of medicine and surgery, operation for hernia was not considered until there was strangulation. We came to the point later when we no longer waited for strangulation, but operated on certain patients who had been strangulated. Later, it seemed advisable to operate before strangulation could again occur. Later still, we came to the step of operating on patients to whom wearing a truss was disagreeable or in whom it was effectual, and now we operate without question as to whether there is any likelihood of strangulation occurring or not.

Almost the same conditions have been experienced in regard to appendicitis. We no longer wait for an abscess to form or for peritonitis to occur, but operate early. Dr. Deaver's and Dr. Ochsner's papers show clearly that pancreatitis is usually the result and a late result of gall-stone disease. We should not wait for these conditions to appear. And, finally, the last two papers show that the mortality of these operations is not from the operation *per se*, but rather from the condition, and this depends largely on the length of time patients waited before operation was considered.

I endorse what Dr. Stillman said in regard to the second group of cases apparently of hypertrophic stenosis, in which the patients recover. I am no longer certain that they do recover. We have a small group of patients who give typical signs of moderate stenosis when infants, but recover or partially recover, and then drag along for many years, finally come to operation which discloses a condition of partial hypertrophic stenosis which had caused much suffering and disability. The removed specimens show clearly the same pathologic conditions which existed in the infants operated on for stenosis.

In the treatment of the hypertrophic variety, I agree with Dr. Stillman that the posterior gastroenterostomy is the better operation of the two. To one who has actually had these almond-shaped tumors in hand at the operating table, it certainly looks as though a plastic operation would not be so safe as gastroenterostomy.

Drs. Gibbon and Stewart said that nearly all their patients had previous symptoms of ulcer, lasting for years before operation took place, and that those operated on within seventeen hours after perforation occurred, nearly all recovered. Those operated on later did not. I think that we should consider in the question of perforation that there are two classes of ulcers, the acute and the chronic. Where is the ulcer that Watson describes so beautifully and of which Fothergill wrote? The girl who while hanging up clothes on a line falls in a heap and the postmortem shows not one but many perforations! That is a rare form of disease and it is an acute toxic ulcer. I have seen but one such case in my experience. The ulcers we do see have not been described, because the patients do not die suddenly, but from a general peritonitis, and the real origin of the trouble has been obscured by secondary conditions and complications. We must always bear in mind that the postmortem does not show the condition as it existed in life, but that of which the patients died.

Speaking finally of the operation itself, I wish to endorse what Dr. Gibbon has said in regard to the operative treatment. It is better to close the ulcer and to drain, and then, if necessary, do a gastroenterostomy later than to do a primary gastroenterostomy, because, in the experience of von Eiselsberg, as well as of ourselves, the perforating ulcer cures itself. We have not had a single case of perforation in which there was relapse of the ulcer, and when trouble did appear late it was a secondary stenosis and not a return of the disease.

Dr. Joseph C. Bloodgood, Baltimore: I wish to emphasize what may be called suprapubic exploration and pelvic drainage. Dr. Gibbon and his associates in the Pennsylvania Hospital, Philadelphia, have demonstrated the importance of pelvic drainage in all cases of general peritonitis. In all doubtful abdominal cases my experience teaches me that the suprapubic incision will allow better than any other single incision the best view of a rapid diagnosis. For example: In pancreatitis, especially acute cases, the suprapubic incision will expose the omentum and its fat necrosis at once and clinch the diagnosis. In one of my cases this was of great help, because when I made the incision to expose the pancreas I found no positive evidence of the disease until the pancreas was exposed through a great mass of fat. Another advantage of the suprapubic incision in all cases of peritonitis is that through this incision you can at once remove with gauze wet in salt solution the exudate; then you can pack the pelvis and other parts of the abdomen with gauze wet in salt solution. Now, while the surgeon is attacking the focus of the infection, whatever it may be, the patient is getting the advantage of this extensive drainage, which might be called temporary drainage. I have had a number of cases recently in which I have employed this temporary pelvic drainage, while I was attacking the focus of infection—appendix or stomach perforation—through a second incision.

In regard to perforation of the stomach, not the non-traumatic perforation, but those following bullet wounds, I would urge exploration of the posterior wall of the stomach in every case. In a recent case in which the patient recovered, I found for the first time that the best way to explore the posterior wall of the stomach is to approach the stomach as when performing a posterior gastroenterostomy. That gives a better view than can be obtained in any other way. Besides, this is close to the pancreas and we can drain through the opening in the omentum between the stomach and transverse colon. This drainage of the pancreas is an important point in treatment of perforation of the posterior wall of the stomach.

Dr. F. C. Shattuck, Boston: We physicians, pure physicians, owe a great deal to surgeons and to their work of the past few years. For instance, our knowledge of peptic ulcers was formerly necessarily limited to the clinical symptoms and postmortem findings; we rarely felt justified in making the diagnosis in the absence of hemorrhage. As regards the postmortem findings, as Dr. Mayo well said, a distinction must be drawn between the disease and the results of the disease. Surgeons are, in a sense, vivisectors. They see disease and its results in the living body and have transferred many conditions from the incurable to the curable class.

As a physician, I am, naturally, conservative as regards operation, and I think that some surgeons have been too ready to operate for digestive disturbances. I see patients who have been operated on for gastric symptoms who are in no way the better for the operation. They have recovered from the operation, but they have not recovered from the disease nor have they been relieved of their symptoms. This remark has a wider application than simply to gastric cases. A busy practitioner in the vicinity of Boston, a first-class man in every way, said to me recently: "It is all very well, this modern surgery. The surgeons operate on patients, discharge them as cured, and then we have to take care of them for years." The fact that a patient can recover from an operation is not, of course, sufficient reason for doing an operation. It may be more blessed to operate than to be operated on. With any new procedure the pendulum is apt to swing too far at first, but it will swing back, an equilibrium will be found, knowledge will be increased, humanity will be benefited. In all this surgeons are playing an important part in which we physicians want to be helped and to help even by criticism.

Dr. William W. Skinner, Geneva, N. Y.: Regarding the perforation of the stomach by bullets, we should not forget that the enlarged anterior bullet wound may furnish a convenient avenue for exploration and suture of the posterior stomach wall. In several instances I have done this successfully. Regarding the so-called medical cures in cases following gastric ulcer, I have recently had two cases in which stenosis following gastric ulcer had produced an enormous dilatation of the stomach. These patients had been treated by electricity, by diet and various other means, and since two weeks after the operation, after a period of from five to twenty years of suffering from dyspepsia and vomiting, and in recent months an inability to take any solid food, these patients are now eating everything without any distress whatever. These patients had run the entire gamut of nerve specialists, stomach specialists, and what-not. I wish simply to add these cases to those already mentioned.

Nervous Prostration.—A close analysis shows that the real cause of most so-called nervous prostration is failure of adjustment to environment, and is psychogenetic.—T. A. Williams, in the *Kansas City Medical Index-Lancet.*

PELLAGRA, ANCIENT AND MODERN

HOWARD D. KING, M.D.
NEW ORLEANS

Though the fact may not be generally known, it is none the less true that pellagra, cases of which are frequently coming to notice in various sections of the United States, has existed among us for many years unrecognized or, probably, erroneously diagnosed, and attracted but little attention. The startling developments of the disease in its various phases in this country during the past two years have aroused such keen interest, and in some cases anxiety, in the subject of the "new" disease, from both professional and lay points of view, that it may not be a waste of serious effort to inquire into the geographical distribution of the disease. Before referring to the history and published reports as to the occurrence and incidence of the disease, it will be worth while to study briefly the early history of maize, *Zea maidis*, which undergoes deterioration and, thereby, causes the disease under discussion.

Maize, otherwise known as Indian corn, *Zea maidis*, is of the natural order *Graminaceæ*. Stephen Ladislaus Endlicher, a noted Hungarian botanist and professor of botany at the Vienna University (1840) and author of "Genera plantarum," states that, while little of it is known in its natural state, it is probably indigenous to tropical America. Bonafon, a French naturalist and the author of "Histoire naturelle du Maïs," asserts that corn had been cultivated from a very ancient period in the Asiatic islands under the equator, and quotes three authorities (Bock, 1532, Ruel and Fuchs) in support of this statement.

From Asia, corn was soon introduced into China, and shortly after the beginning of its cultivation there was transported westward. Later it was observed in India and Turkey, in the latter country being termed "Turkey corn," under which designation in the year 1597 John Gerard, an English surgeon and botanist, described seven varieties, and one species particularly which he called "Corne of Asia."

Both Gerard and Bonafon maintain that maize was first found in the far East, and that following the discovery of America it was reintroduced into Europe from that country. Embodied in Bonafon's work is a drawing of corn reproduced from a Chinese treatise on natural history, "Li-chi-tchin," dated 1562, seventy years after the discovery of the New World by Columbus. Santa Rosa de Viterbo, a Spaniard, declares, in conflict with these writers, that maize was introduced into Spain by the Arabs in the thirteenth century. Egyptian writers and students of archeology assert that they have never seen the likeness of corn reproduced on Egyptian monuments. Travel throughout Asia and Africa was quite extensive during the twelfth to the fifteenth centuries, inclusive, and yet no mention of corn is made until the sixteenth century.

That the views of both Bonafon and Gerard were erroneous is evident from the fact that the expeditions to the New World undertaken by Ponce de Leon, Hernando Cortez, Francesco Pizarro, Lucas Vasquez de Ayllon and Pamphilo de Narvaez, all in the beginning of the sixteenth century, had as members of their parties many who had previously traveled in the far East and they knew nothing of corn and had never seen it before their arrival in America. During the disastrous excursion of Pamphilo de Narvaez into the interior of Florida he and his companions seized several hundred bushels of corn from the Indians at a bay which they called the "Baia de Caballos," now Apalachee Bay; this was the first experience of the Europeans with corn as a foodstuff.

Baron Friedrich Heinrich Alexander von Humboldt, a celebrated German scientist and author, published in 1814 to 1834 the results of his American journey in a large series of volumes bearing the general title, "Voyage aux régions équinoxiales du nouveau continent." In this work Humboldt furnishes conclusive proof that maize was first found in America; that its introduction into Europe was not a reintroduction, and that at the time of the discovery of the New World it had long been cultivated there, "green corn" being considered an important item of food by the Indians. Many of the tribes celebrated its season with religious ceremonies and festivals.

Evidence as to the correctness of Humboldt's statement is found in the fact that in 1600 Baruino, in a medical treatise, called attention to a peculiar malady prevailing among certain tribes of the American Indians. From his meager description it apparently resembled the pellagra which we have to-day; and he ascribed it to the use of corn, which formed a part of the Indian's daily diet. Francesco Scipione, Marchese di Maffei, an Italian poet, archeologist and litterateur, a few months after the appearance of Baruino's treatise, made similar observations. At this time various travelers returning from the New World called attention to a disease noted in horses, as a result of which the animal becomes paretic and tabetic and also loses hair. This affliction in the horse was thought to be caused by eating bad corn. All of this evidence obviously demonstrates that the North American continent is the natural habitat of *Zea maidis* and consequently the original home of pellagra. The first mention of the disease in literature was made by Ramazzini, who called it "mal del padrone."

The first really authentic accounts of the disease come from Spain, where corn was introduced during the period of 1680 to 1700. It would appear that in 1735 it was observed in the vicinity of Oviedo, and twenty-seven years later, or 1762, Gaspar Casal describes the disease which he has seen in the Asturias and gives to it the name "mal de rosa." The term "lepra scorbutica" and "asturiensis" is also said to have originated with Casal. Among the peasantry the disease was at different times termed "mal de la rosa," "mal del sole" and "mal de la miseria." When the disease was found in this region it remained for a long time confined within very narrow limits. Oviedo is still the principal focus of the disease, but it is also prevalent in Cuenca, Lower Aragon, Saragossa, Navarre, Burgos and other provinces.

In Italy the disease was first reported from the neighborhood of Lago Maggiore, and in 1750, fifteen years after its first noticed appearance in Spain, it broke out simultaneously in the districts of Milan, Brescia, Bergamo, and Lodi. From these points it spread rapidly to Como, Cremona, Mantua and Pavia, and before the year 1798 the whole of Lombardy was a very pellagrous region. At the time of the wholesale infection of the Lombard region, the disease became endemic in Venetia on the one side and in Piedmont on the other almost simultaneously. With the beginning of the year 1800 the course of the disease was southward, and soon Emilia and Tuscany were invaded, the disease, however, becoming more prevalent in its original and earlier seats. Frapolli, physician to the Hospital of Milan, clearly described the disease in 1771, nine years after Casal had described the disease as "mal de rosa." To

Frapolli we owe the present name of the disease (from *pelle*, skin, and *agra*, rough), and the same writer declared that the disease was an ancient one and none other than pellarella, having been noted in 1578, as would be seen by reference to the regulations for admission to the Hospital Major of Milan at that time. At about the time Frapolli named the disease, Adoardi of Venetia called it "scorbutus alpinus." The disease spread to such an extent that the Venetian authorities, at the request of the Sanitary Commission of Venice, issued an edict in 1776 prohibiting the sale or exchange in the public markets of corn having a bad odor or taste. As a proper designation of the disease (corresponding to the symptoms observed), D'Oleggio in 1784 suggested that it be termed vernal insolation—the "sunburn of spring." During the same year the Joseph II Pellagra Asylum, a hospital for the special study of the disease, was established in Legnano by royal warrant, and the older Strambio appointed as chief physician. Giambattista Marzari, about 1810, was the first to call attention to the probable relation between maize and pellagra; and sixteen years later (1826) Vincenzo Sette declared that the principal cause of pellagra was fungi, producing acid decomposition in the fatty oils of the corn.

With the exception of the proclamation of the Venetian authorities, very little was done to check the ravages of the disease until Ballardini, in 1845, declared and demonstrated that pellagra was caused by eating damaged maize. His views as to the causation of the disease met with contemptuous ridicule from many quarters. While the discussion as to its cause waxed warmer the disease raged to such an extent that in the space of seventeen years (1839 to 1856) it increased from 14 to 28 per thousand, or from 20,282 to 38,777. This alarming increase aroused the Lombard government to action, with the result that a special commission was appointed from the Instituto Lombardo to look into the cause of the malady. This commission differed in its opinion from Ballardini. The report stated that, though Ballardini's theory as to damaged maize being the causative factor in the production of the disease was correct, the commission could not concur in his opinion that a diet free from maize influenced the disease; their own conclusions being that such a diet did not affect the progress of the disease one way or the other. The final conclusions of the commission certainly are not in accord with their first findings as to Ballardini's theory. All improvements in the condition of the afflicted peasantry or decline in the disease they attributed to better conditions of alimentation, and it may easily be seen that their findings were affected, at least in a measure, by an element of personal prejudice.

In the province of Vicenza the number of persons known to be pellagrous between the years 1853 to 1855 was 1,380; in 1860, 2,974, and in 1879 it had risen to 3,400; these figures, it will be noted, covered only one province. In 1879 it was estimated that the number of pellagrous peasants numbered 97,855, the distribution being as follows: Lombardy, 40,838; Venetia, 29,386; Emilia, 18,728; Tuscany, 4,382; the Marches and Umbria, 2,155; Piedmont, 1,692; Liguria, 148; Rome, 76. In Lombardy, where the disease has always attained its maximum, the most infected centers have been in the provinces of Brescia, Pavia, Piacenza and Ferrara. Next to Lombardy the disease raged most severely in Venetia and Emilia. In Lombardy, Venetia and Emilia, the number of persons actually afflicted with the disease (1880) formed 31.70, 30.52 and 23.66 per thousand of the agricultural population. That pellagra seriously affected the military recruiting in this section of Italy may be seen from the army report of 1878, wherein it is stated that 20 per cent. of the conscripts in Lombardy and 18 per cent. in Venetia were unfit for military duty by reason of pellagra. In 1874 the total number of known pellagrous lunatics in Italy was 945. In 1877 the number had increased to 1,348. Between the years 1879 and 1881, a period of two years, the disease had increased from 97,855 to 104,067. In 1899 the number of pellagrous peasants showed a slight decline, there being only 72,603 cases, or 10.30 per 1,000, reported. It is interesting to note that Lombardy, always the greatest stronghold of the disease, was surpassed by Venetia in the total number of cases according to the statistics of 1899, the figures being: Venetia, 39,882, or 34.32 per thousand, and Lombardy, 19,557, or 12.90 per thousand.

In a government report, "Annali di Agricoltura, No. 18," published in Rome, 1880, under the caption, "La Pellagra in Italia" (1879), the statistics for the St. Clement's Hospital of Venice for the period of the preceding six years are given, and it is not too much to say that they are startling. From it one may obtain some conception of the extent of the disease which the Italians so graphically call "il delirio della miseria."

The figures are as follows:

	Total No. Insane.	Pellagrous Insane.
1874	558	178
1875	595	153
1876	666	175
1877	802	215
1878	859	294
1879	924	337
Totals	4404	1352

In 1884 it was conservatively estimated that there were 10,000 pellagrins in Italian hospitals and insane asylums. A bill for the better prevention of pellagra was introduced in the Chamber of Deputies at Rome through the efforts of the Zannardelli cabinet in the spring of 1902. In 1903 it was calculated that there were in Italy 60,000 cases of pellagra. According to Dr. L. W. Sanbon, however, these statistics are very unreliable for the reasons (1) that the disease is one that is not usually admitted by the victim because it is by many considered degrading; (2) that the notification of its presence to the authorities is not compulsory; and (3) that the local authorities very often, for obvious reasons, endeavor to make it appear that it is decreasing in their respective districts. Sanbon believes that it would be no exaggeration to place at the figure 100,000 the cases in which the disease is plainly manifest; of these, 3,000 at least are in the lunatic asylums of the kingdom. The statistics of 1907 show no appreciable decline of the disease, and conditions, instead of being bettered, are stationary, though there has been a marked decrease in the number of deaths, from 3,987 in 1898 to 376 in 1907.

From France we obtain the following data: The first reliable information of the existence of pellagra in Gascony came from the vicinity of Arcachon in the year 1818, after which it spread along the coast of the Gironde and the Landes. Marchand, in 1826, called attention to the disease in the southern provinces of France. Dr. Petit, a French physician, took note of it about 1828, and states that it was more common in the Landes than in the Gironde district and that at one period in his memory there were 200 cases out of a population of 6,000. Lavinder states that the disease was first observed in France by the elder Hameau in the vicinity of Teste in the early part of the nineteenth century, 1818 (whence the name, "maladie de la Teste").

After leaving the Gironde and Landes districts the malady spread along the left bank of the Garonne and toward the Pyrenees mountains. In the vicinity of Dax the disease never assumed serious proportions.

At intervals, even at the present day, our attention is called to cases occurring in various parts of France.

Tuczek, in 1893, stated that 2 per cent. of the Spanish peasantry were pellagrous.

In Roumania the first recorded case was in 1810, and the medical profession is unanimous in tracing the disease to damaged corn imported from Italy by vessels in the coast trade. From the period between 1833 to 1846 the disease attracted much attention and was known to the people under the name of of "Buba Tranjilar." Between 1854 and 1859 it had increased considerably and gave much alarm to the government, as at that time the records pointed to 4,500 known cases, Moldavia having more cases than Wallachia. In 1885 there were 10,626 cases; in 1886, 19,797 cases. In 1898 the peasant population of Roumania was estimated at 5,300,000. Of this number, according to statistics, 21,272 were pellagrins. Triller, in 1906, calculated the number of pellagrous peasants in this country to be not less than 30,000, and possibly many more. In 1907 the number of pellagrins were supposed to number not less than 40,000. Conditions in Roumania, the same as in Italy, instead of improving, seem to have become aggravated.

Corfu, an island off the coast of Epirus, has also had its share of pellagra, the disease becoming endemic in that island beginning with the year 1856. In Corfu it exists in more than 30 out of a total of 117 communes, the proportion of cases for the whole island being 3.2 per 1,000 inhabitants. Typaldos, of Corfu, has given the disease a great deal of study.

The disease exists in Austria, where the Tyrol region has been the area most affected. In Bukowina, having a population of 38,000, pellagra affects 2.9 per cent. of the peasantry, and there are seventeen institutions in Austria for supplying the peasants with proper food. Austria has enacted legislation dealing with pellagra and, aided by popular education, the government expects to keep the disease within bounds.[1]

In Great Britain, peculiarly enough, the disease has been noted but twice, the first case being reported by Drs. Brown and Carruthers,[2] of Rock Ferry, England. The second case was reported by Drs. R. Dods Brown and R. Cranston Low,[3] assistant physicians in the Royal Edinburgh Asylum, in which institution it occurred in the current year.

In Africa pellagra was first recognized in 1847 by Pruner, who had studied the disease in Italy. Pruner's statements were criticized by Hirsch and others. Years later at a meeting of the medical congress held at Cairo from Dec. 18 to 23, 1892, Dr. F. N. Sandwith, M.R.C.P., and senior physician and lecturer on medicine at Kasr-el-Aini Hospital, Cairo, made a report on the disease and read a very able paper on its prevention. He states that, through the courtesy of Dr. J. Wornock, superintendent of the lunatic asylum of that region, he was able to note annually forty to fifty cases of pellagrous lunatics. Sandwith has seen more than 1,100 cases since 1893, and states that the disease is frequent in Lower Egypt, though not so prevalent in Upper Egypt. He declares that the percentage of pellagrins who become insane in Egypt is far lower than that of Italy. In June, 1902, Sandwith journeyed through eleven villages of Gharbieh and examined 315 men. Of these, 114, or 36 per cent., showed signs of early pellagra. An American, Passed Assistant Surgeon C. H. Lavinder, of the U. S. Public Health and Marine-Hospital Service, one of the foremost students of the disease, differs from the above statement of Sandwith, stating that the disease occurs rather extensively in Upper Egypt. The disease is endemic between 42 and 46 degrees north latitude, 11 degrees west and 26 degrees east longitude of Paris. The island of Corfu and several other small foci are outside of this area.

The disease has been observed in Algeria, Tunis, Bulgaria, Servia and in various sections of southern Europe. Reports as to the recognition of the disease have also been received from northern Portugal, Dalmatia, Croatia, Bosnia, Turkey, Bessarabia, Kherson and as far north as Poland. Low, one of the later investigators, while in Italy in company with Sanbon, saw several cases, and reported that it was the same disease he had encountered in the West Indies. Neirte has reported the disease from New Caledonia. Ray, in 1902, stated that he had noted several cases of pellagra in one of the districts of North Behar, India.

In the Americas, pellagra has been recognized in Barbadoes, Brazil, Uruguay, the Argentine Republic, and in Mexico in more recent years by Bouchard, as well as in the United States.

In the United States, sporadic cases of pellagra were recognized in New York and Massachusetts hospitals as early as 1863 and 1864. It was about this time that reports were received of an epidemic from the vicinity of Halifax, Nova Scotia. Reports of this outbreak of the disease were very meager and uncertain. It is a matter of interest that the medical records and memoirs of the Civil War do not contain any specific instances of cases bearing a resemblance to pellagra having occurred during the long struggle. Certainly, the culinary methods of the troops in the field at that time were anything but good.

In this connection it is fair to assume that every one recalls that during the war there were several large prisons or camps in the South created for the detention of prisoners of war captured by the Southerners. Omitting any reference to the minor prisons, I shall dwell here only on Andersonville and Libby prisons. With the sectional controversy as to the inhumane treatment of these prisoners by their captors, this history has no connection. Yet, making due allowance for possible brutality (perhaps a natural consequence of a bitter internecine war), the mortality rate in these two prisons was, indeed, staggering. It is generally known, of course, that the South was in the midst of a desperate struggle for governmental existence; that the ordinary industries of the entire section had been largely paralyzed, and that corn was one of the chief (if not absolutely the only one) article of diet. In the two prisons referred to, both situated in agricultural states, corn was necessarily generally used, and the bread furnished the prisoners is described as having been of very poor quality. Under these circumstances, the inquiring mind naturally asks if pellagra, unrecognized and unheeded, did not prevail in these prisons to a great extent. This line of thought might well be pursued with profit by other students of historical medicine; and I hope that as a result of the suggestion further inquiries of this nature will be made for the benefit of the profession and the public in general.

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[1] Vienna Letters, The Journal A. M. A., Sept. 4, 1909, liii, 808; Aug. 1, 1908, li, 420.

[2] Brown and Carruthers: *Practitioner*, London, May, 1906

[3] Brown, R. D., and Low, R. C.: Edinburgh Med. Jour., September, 1909.

Dr. John P. Gray, of Utica, N. Y., and Dr. Tyler, of Somerville, Mass., at the annual convention of American Asylum Physicians, held in Washington, D. C., in 1864, reported two cases of suspected pellagra,[4] in each of which there were mental symptoms.

We hear no more of the disease until 1902, when Drs. S. Sherwell, of New York, and H. F. Harris, of Georgia, each reported a case. Between the first and second authentic accounts of the disease in the United States a period of thirty-eight years elapsed, and it is reasonable to infer that during that interval the disease was either erroneously diagnosed or unrecognized. Dr. Isaac M. Taylor, of Morganton, N. C., has seen seven positive cases of pellagra since 1905, and states that, reviewing his twenty-three years' care of the insane, he is now convinced that he has seen similar cases within that period. This is also the experience of Dr. J. Taylor, of Columbia, S. C. The two Taylors, one from North Carolina and the other from South Carolina, have expressed the opinion that the so-called "scrofulous" negroes were really pellagrous. W. S. Thayer, of Baltimore, recalls having seen a case in 1905 which he is convinced to-day was pellagra.

In 1907 a sporadic case of pellagra in Texas was reported by Dr. T. C. Merrill, of Colorado, Texas. During the same year the disease was recognized and reported independently by Dr. J. W. Babcock, superintendent of the South Carolina State Hospital for the Insane, and Dr. George H. Searcy, superintendent of the Alabama State Hospital for Colored Insane. In 1908 the disease was identified by two South Carolina physicians (Babcock and Watson, of Columbia) while in Italy, where they had gone for the purpose of studying the disease. They recognized the disease independently of each other. Within the past eighteen months, reports as to the occurrence of the disease show it to be of alarming frequency in the Carolinas, Georgia and Alabama. The Public Health Reports of the United States issued by the Treasury Department, vol. xxiv, No. 25, contains a table showing about 1,000 known cases of pellagra scattered in thirteen states. More than half of these have been reported from asylums or similar institutions. Since the inception of the present discussion a number of cases are coming to light in Florida, Louisiana and Mississippi. Sporadic cases have been reported from Texas, Arkansas, Kansas; and in the Eastern states the disease has been observed by various physicians in New York and Pennsylvania, and in the southern states of Maryland and Virginia. Dr. B. K. Ashford has recorded one case occurring in Porto Rico, and Dr. J. A. Hayne has seen two cases in the Panama Canal Zone. C. H. Lavinder makes a conservative estimate of at least 1,500 cases since 1906. He recently found from forty to fifty cases in the Illinois State Hospital for the Insane, at Peoria, Ill. From the testimony of the staff of that institution it now appears that the disease has existed for the last eight years and was only recently recognized.[5]

I have endeavored to trace briefly (1) the meaning and origin of the term pellagra; (2) the extent and location of the disease; (3) the labors of the foremost students of the disease in the United States. I have purposely refrained from touching the etiology of the disease, and for this phase of the subject would refer the reader to Sanbon's exhaustive essay.[6] Every student of the malady will gain much valuable knowledge and be amply repaid for his time by a thorough perusual of the valuable monograph on the disease by C. H. Lavinder.[7]

In the preparation of this paper I have consulted all the authorities accessible to me and have utilized whatever seemed essential to the discussion. No history is ever absolutely "original," but each must be culled from many sources. I do not assert that this essay is the result of years of painstaking personal investigation, but rather a summary of the works of some of the greatest students of the disease.

2131 Baronne Street.

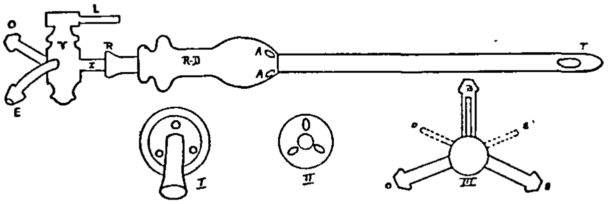
Clinical Notes

A NEW DEVICE FOR RECTAL ANESTHESIA

F. HOEFFER McMECHAN, M.D.
Anesthetist to St. Mary's Hospital
CINCINNATI, OHIO

Thus far in rectal anesthesia two phases of the administrative technic have given trouble: (1) the simultaneous supply of oxygen with the warmed ether vapor or its independent use after the completion of the operation to facilitate recovery, and (2) the accumulation of gas in the bowels without any satisfactory method of egress.

The accompanying sketch of a device for use in conjunction with the Cunningham apparatus shows how these troublesome phases have been overcome.



Device for rectal anesthesia.

V is the Haslam bladder-washer with an additional hole bored into the core at the opening O, and a groove cut across the core for one-third of the distance from the exit tube to the inlets, thus making a three-way valve. With the lever at I both oxygen and ether are admitted; the movement of the lever toward E gradually shuts off the oxygen and admits ether vapor alone; the lever moved toward O gradually shuts off the ether vapor and admits only oxygen. The tube from the oxygen water-bottle is attached at O and the tube from the anesthetic apparatus at E. The supply of oxygen and ether separately or in combination can then be regulated by the movement of the lever at the discretion of the anesthetist.

The three-way valve is connected with a flexible rectal tube (RT, French 27, American 18), which fits into an especially prepared rectal dilator (RD). This dilator is metal and of the self-retaining type. The caliber of the central channel is just large enough to admit the rectal tube on pressure, thus allowing an elongation or shortening of the tube projected into the bowel, which projection averages, according to Cunningham, between ten and twelve inches. Another series of channels extend from the tip to the butt of the dilator. These channels serve as air-vents for the egress of accumulated gases in the bowel and dispense with the necessity of introducing the finger into the rectum during the course of anesthesia to facilitate the egress of the accumulated gases.

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[4] Am. Jour. Insan., October, 1864.

[5] A full report of this recent epidemic will be found in Treasury Department Reports, xxiv, 38, in that section bearing on the work of the Public Health and Marine-Hospital Service.

[6] Sanbon: Brit. Med. Jour., 1905, ii, 1272.

[7] Lavinder, C. H.: Public Health Reports, June, 1909, xxiv, No. 25.

The butt of the dilator with the air-vents and rectal tube is shown at I. II represents the tip of the dilator with the air-vents. III the valve with the lever turned to points indicating the combination of ether and oxygen or their separate use.

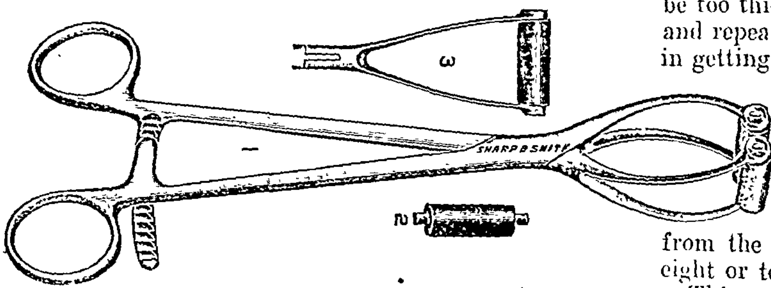
The device can be taken apart and sterilized by boiling, thus insuring asepsis and avoiding the danger of transmitting contagion.

639 West Seventh Street.

A NEW VISCERA FORCEPS

MILTON R. BARKER, M.S., M.D.
CHICAGO

In the forceps about to be described the jaws are round, made of steel, and so constructed that they can be removed in an instant by springing apart the supporting frame. Figure 2 represents one of the jaws of the forceps removed from the frame, and Figure 3 is a front view of a jaw section of one of the blades. The jaws are covered with rubber tubing, which projects beyond the frame of the instrument, thus preventing any tissue grasped being injured by it. The frame supporting the jaws is so fashioned that if, after being grasped, any bellying of the tissues takes place, as often does in handling the stomach or intestines, they cannot be injured as they cannot come in contact with the frame.



A new viscera forceps. 1. The complete instrument; 2. one of the jaws of the forceps removed from the frame; 3, front view of a jaw section of one of the blades.

A large or small amount of tissue may be included in the bite of the instrument as the case demands. The force that may be applied is regulated by the pliable steel frames supporting the jaws by the rachet in the handle of the instrument and by the rubber cushion covering the jaws. The greatest force that can be applied will not injure any of the tissues handled. The instrument, when applied, never slips nor loses its hold.

The forceps is made in two sizes. The jaws of the larger being seven-eighths of an inch long, those of the smaller one-half inch long. In other respects they are alike. The larger instrument best serves the purpose when handling the stomach or large intestine; the smaller is better adapted to gall-bladder, small intestine and appendix work.

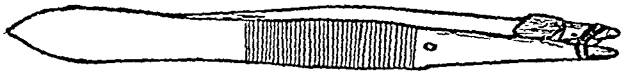
While the instrument was designed for handling the abdominal viscera, I have found it useful in many surgical procedures, when it is necessary to handle organs or tissues without traumatism. I have recently delivered a kidney, with the larger instrument, with great satisfaction. So far I have used only plain, sterile rubber tubing on the jaws of the instrument, discarding the corrugated varieties. It is always best in this instrument, as in all others, with which rubber is used, to sterilize the instrument and tubing in separate vessels; otherwise the instrument is blackened.

4625 Greenwood Avenue.

AN IMPROVISED METHOD OF MAKING FROZEN SECTIONS FOR IMMEDIATE DIAGNOSIS

H. J. RELIHAN, A.B., M.D.
BURR OAK, KAN.

I have recently needed, on the removal of various pathologic tissues, to arrive at immediate diagnosis, and being in the average country office, without microtome and the accompanying conveniences of a city laboratory, I have been forced to improvise some method to meet the conditions.



Specimen of pathologic tissue held in tissue forceps for freezing.

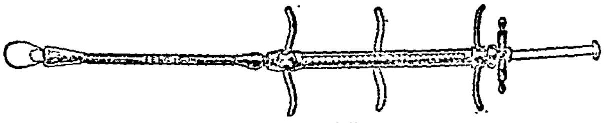
After having removed the tissue I take a small piece, about 1 cm. square, and place it in the jaws of a common tissue forceps about 1 inch from the end, and then wind a small rubber band around the points of the forceps; the tissues are thus held securely, as shown in the illustration. Next I freeze the tissues, which is done with a common tube of ethyl chlorid; after freezing thoroughly I trim off most of the section roughly so that the surface of the tissue is about 2 mm. above the jaws of the forceps. It is again frozen, and a sharp razor, held at a good cutting angle, resting on the jaws of the forceps as a track, is drawn across the tissue. The first section will be too thick, but after freezing the third or fourth time, and repeating the same procedure, I have had no trouble in getting thin sections. The contraction of the forceps blades seems to be so much quicker than the tissue contraction that the projecting portion is about the right thickness for a section. By going through this procedure I have had no trouble in getting very thin sections, which answered my purpose perfectly. The time from the live tissue until the mount is made is about eight or ten minutes.

This could not be recommended where the slide is to be made for a permanent specimen, but it very well answers the purpose of a temporary mount for an immediate diagnosis, the same technic being used for mounting as in any frozen section.

A NEW TONSIL-SNARE

ARTHUR J. HILL, M.D.
CANTON, OHIO

This snare consists essentially of a stylet, sliding collar, wheel and cannula, in the upper part of which are two longitudinal slots. The sliding collar is fastened to the stylet by means of a thumb-screw which passes entirely through the collar and stylet. Threads are cut in the stylet only, thus preventing friction on either side and permitting instantaneous tightening of the wire on the tonsillar base, when a few turns of the wheel completes the operation. The illustration shows the mechanism very well.



A New Tonsil-Snare.

Its advantages are its ease, rapidity and certainty of operation, strength and simplicity, and the fact that it cannot get out of order.

604 Courtland Building.

BLUEBOTTLE FLIES AS CARRIERS OF INFECTIONS

W. FOREST DUTTON, M.D.
PITTSBURG, PA.

The bluebottle and blow- or flesh-flies are not so numerous in or about human habitations as the house-fly, yet they are not to be considered a minor factor as a carrier of disease. The *Lucilia cæsor* is the commonest bluebottle or greenbottle fly and is most likely to frequent houses before rain.

Some species breed exclusively on meat, while others may lay their larvæ on meat, open sores, decaying vegetable material, cow manure and undigested human dejecta. The larvæ grow rapidly and attain full size in about five days. They develop into adults in two weeks. The *Sarcophaga sarraceniæ,* which resembles an extra large house-fly, is, perhaps, the most abundant flesh-fly in this country.

The habits, breeding places and nature of these flies make them a tangible factor in the dissemination of typhoid fever. This can best be exemplified by citation of one instance in which such was the case: A bacilli carrier was attacked with acute indigestion and passed particles of undigested meat, etc. The stools were voided or deposited in a privy, standing two feet above the ground, some twenty yards from the dwelling. The stools were passed directly on the ground and were easily accessible to flies.

The flies fed freely on this dejecta and carried infected material on their hairy feet and body to the food used by the household. The result was that four members of the family were attacked at about the same time. Every other avenue for infection, except by flies, was excluded.

The human bacilli carrier, the infected bluebottles, the transmission to the meat (cold sliced) gave, in this particular case (from deductions and conclusions), the source of infection.

624 Pittsburg Life Building.

THE LATER STAGES OF EXPERIMENTAL MYOCARDITIS

A PRELIMINARY NOTE [*]

MOYER S. FLEISHER AND LEO LOEB
PHILADELPHIA

The investigators who employed frequently repeated intravenous injections of adrenalin into rabbits for the production of aortic lesions commonly noted at the autopsy not only blood-vessel but also myocarditic changes. So far it has not been possible to study the succeeding stages in the development nor the ultimate outcome of this disease.

A short time ago we found that one single injection of adrenalin (0.2 c.c.) cause in many cases a myocarditic lesion and that one injection of a combination of a relatively small dose of adrenalin and spartein or caffein produced macroscopic changes in the heart of the rabbit in about 60 per cent. of the cases and microscopic changes in almost all of the animals. We concluded therefrom that a cardiac and not an aortic lesion was the typical effect of intravenous injection of adrenalin. This enabled us to establish the sequence of events in the development of the myocarditic lesions. The change taking place during the first six weeks after the injection of adrenalin we have described elsewhere.[1] Since then we have studied later stages, namely, the period six to fifteen weeks after the injection, and here we wish to state briefly the main result of these studies, which we believe to be of interest from the point of view of human pathology also.

While up to approximately six weeks after the onset of the disease we found in many hearts very pronounced gross lesions, yellow discoloration, stiffening and loss of pliability, thickening of the wall of a part (sometimes the major part) of the left ventricle, we were surprised to see how completely such apparently far-going gross lesions can retrogress within a relatively short time.

The microscopic changes, which consist in the first period of the disease (comprising the first six weeks) principally of a considerable enlargement of the muscle fibers, increase of the connective tissue and some degenerative changes of the muscle fibers, show likewise retrogressive changes in the following period from six to fifteen weeks after the onset of the disease. It is very rare to discover vacuolization of the muscle fibers; the enlargement of the muscle fibers is considerably less marked; the appearance of the double nuclei in the muscle becomes much rarer. Now, however, at some places we find tracts of rather dense fibrous tissue and occasionally infiltration of small cells.

There can therefore be no doubt that very pronounced healing processes take place with a surprising rapidity and hearts which a few weeks after the primary injury showed marked lesions to the naked eye appear in many cases quite normal a few weeks later. Thus relatively small lesions can be detected in such cases only through microscopic examination.

It will be of great interest to follow the fate of the fibrous bands which develop in such hearts. We hope to be able to report on this question at a later date.

A SMALL LOCALIZED EPIDEMIC OF AMEBIASIS

WILLIAM ALLAN, A.B., M.D.
Professor of Parasitology, North Carolina Medical College
CHARLOTTE, N. C.

In June, 1909, a person with amebiasis moved into House 3 on North Johnson street. The five households in this row all used water from the well between Houses 1 and 2. This is a surface well, about twenty-five feet deep and in no way protected from surface drainage. The privies are all directly back of the houses, on higher ground than the well, at a distance varying from 50 to 150 feet.

On August 16 three people in House 5, three in House 4, and one each in Houses 3, 2 and 1 complained of sore mouth; some of them had diarrhea, some of them only intestinal fermentation without diarrhea. These sore mouths had all developed within the past two weeks and all presented the same appearance—dry red erosions at the angles of the mouth with a dry, brick-red, bald, fissured tongue.

When the first one was seen, pellagra was suspected; when representatives from every house on the street presented themselves, it became evident that the trouble was epidemic, and amebic dysentery was the next most natural thing to suspect. This suspicion was heightened when a history of recently acquired diarrhea was obtained from about half the sufferers.

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[*] From the Laboratory of Experimental Pathology, University of Pennsylvania.

[1] Fleisher, Moyer S., and Loeb, Leo: Experimental Myocarditis, Archives of Internal Medicine, February, 1909, iii, 78.

On August 17 a microscope was carried out and *Entamœba histolytica* found in the stools of two patients in House 5 and in one of the two patients examined in House 4. The other patient in House 5, and the patient in House 3 (son of the original patient), together with the patients in whose dejecta amebæ were found, all showed eosinophilia. Unfortunately, it was impossible for a man in general practice to make a routine examination of the blood and feces of every one living in the five houses. Within three weeks three of these households had moved, one to another mill section of Charlotte, one to another North Carolina town, and one to parts unknown.

The dysenterics at once attributed their sickness to the well used by all in common. They said that the water smelled bad, and were unanimous in saying that it "griped" them. A specimen of this water, with scrapings from the well bucket, was taken at once. This showed algæ, vorticellæ, several varieties of low animal life that were unknown to us, and amebæ corresponding in size and appearance to the *histolytica*. We cannot say definitely that these were pathogenic amebæ. The use of the well-water was stopped at once, and in the families we have been able to keep track of, no new cases have developed. The owner of the property very humanely put in a safe water-supply.

In view of the wide-spread prevalence of amebiasis throughout the South, it is imperative that the local health authorities take some steps to abolish the careless and almost universal custom of soil pollution that prevails in this section.

DISAPPEARANCE OF A LARYNGEAL GROWTH, PROBABLY CARCINOMA, WITHOUT TREATMENT

JOSEPH B. GREENE, M.A., M.D.
BIRMINGHAM, ALA.

The following case presents some points of interest worthy of reporting, as it seems to correspond with a certain class of cases recently referred to by Jonathan Wright.[1] Till Wright's paper appeared, I had been almost convinced that my case was one of benign papilloma, in spite of the fact that the growth had all the macroscopic appearances of early malignancy. The opinion that the growth was malignant was shared by Dr. E. Fletcher Ingals, who saw the patient in June, 1908. Now I am of the opinion that the tumor was carcinoma, but disappeared without treatment. As to this fact, however, we can never be sure, as the patient declined to have a specimen removed with a view of prompt laryngectomy, or, at least, laryngotomy.

Patient.—A physician and friend, aged 50, first consulted me May 2, 1908. He had always enjoyed good health; had been a hard-worked physician for about twenty years. He smoked cigars and pipe moderately. There was no history of syphilis or tuberculosis. Family history negative, except that the patient's paternal grandfather died, probably of carcinoma. The patient's present condition was that of a fairly well-nourished man, though he looked a little older than 50. Three months before examination patient began to complain of slight pain in the throat, worse at times, when larynx was in a certain strained position.

Examination.—Chest negative. No glandular enlargement on neck or elsewhere. No cough. Hoarseness very slight, hardly noticeable. Markedly deviated nasal septum. Some nasopharyngeal catarrh present. A small growth over the center of the left vocal chord, about the size and shape of a small grain of wheat, attached to the upper and inner side of the chord; not pedunculated; surface somewhat uneven, and attached base distinctly red.

Course of Disease.—On May 19, 1908, there seemed to be some increase in size. On June 4, patient was seen by Dr. Ingals in Chicago, who pronounced the case probably carcinoma. He advised the use of tuberculin for diagnostic purpose, and if no reaction occurred, then a removal of a fragment of the growth for examination. If found to be carcinoma, he advised laryngectomy, or at least laryngotomy. In this advice I coincided. At this time (June 4) I again advised the patient's return to Chicago for examination and operation, if necessary. Patient seemed to agree as to the probable diagnosis, but preferred to continue his work as long as possible and to avoid a severe operation, which would probably cause serious impairment or entire loss of his voice. The tuberculin gave the patient unpleasant symptoms, such as headache and dizziness, and was, therefore, discontinued. The small dose gave no reaction either in appearance of the growth, or a rise of temperature. On Oct. 7, 1908, patient reported at my office for examination, and to my surprise and delight there was no sign of the growth to be seen.

While the result of the above case was very satisfactory without surgical measures, far be it from my mind to recommend delay or expectant treatment of such growths.

803 Title Guarantee Building.

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[1] Wright, J.: Laryngoscope, August, 1909, New York Med. Jour., July 17, 1909.

CECOSTOMY—THE OPERATION OF CHOICE FOR TEMPORARY DRAINAGE OF THE COLON

C. C. ALLISON, M.D.
OMAHA

For that class of cases, in which colostomy is indicated, for physiologic rest of the colon, the problem of efficient drainage is paramount, but the subsequent closure of the opening in the bowel is a surgical problem hardly secondary in importance to successful drainage.

Appendicostomy can not be accorded more than a limited field of usefulness, because in a great majority of cases it is diversion of the fecal current, rather than irrigation, that is the essential therapeutic aid; nor will the mere opening of the ascending colon afford sufficient drainage in the more severe types of colitis.

It is my experience that cecostomy can be so accomplished by rotating the cecum upward and outward and making the opening opposite the ileocecal aperture, then not only efficient drainage is accomplished, but, what becomes most practical in the subsequent management, the closure of the opening in the cecum can be done with the utmost ease by the surgeon and with perfect safety to the patient.

It is true that a part of the cecum is sacrificed, but the danger of stricture is eliminated, a complication which is actual in case of simple colostomy, without a spur, and the dangers of an anastomosis is avoided, as would be the case with the Maydl tube.

Cecostomy has appealed to me, therefore, as being the operation of choice, when the fecal current is to be temporarily diverted from the colon, both because it affords more efficient drainage and because the closure of the opening becomes a minor surgical procedure.

A Model City.—If we had a national department of health it could assist in making our national capital, the city of Washington, into a model sanitary city, free from insanitary tenements and workshops, air pollution, water pollution, food pollution, etc., with a rate of death and a rate of illness so low as to arouse the attention of the world.

New and Nonofficial Remedies

SINCE THE PUBLICATION OF THE BOOK "NEW AND NONOFFICIAL REMEDIES, 1909," THE FOLLOWING ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK ARE ASKED FOR.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*Continued from page 869*)

SOLUBLE FERRIC ARSENITE—Ferri Arsenis Solubilis.—Ferric Arsenite and Ammonium Citrate.—Ferric Arsenite made soluble by the addition of ammonium citrate.

Soluble ferric arsenite occurs in green scale, easily soluble in water; it contains 1.06 per cent. arsenic, equivalent to 1.4 per cent. arsenous oxide, and iron, equivalent to from 15 to 18 per cent. elementary iron.

Actions and Uses.—Soluble ferric arsenite is a hematinic said to be particularly indicated in anemia, complicated with malaria; in pernicious anemia and in pellagra.

Dosage.—0.03 to 0.065 Gm. (½ to 1 grain). It may be given by subcutaneous injections in the gluteal region in doses of 0.03 Gm. (½ grain) dissolved in 1 Cc. (15 minims) of water every two or three days.

Non-Proprietary Preparations:

Ampules Iron Arsenite Solution S. & D.—Each Ampule is said to contain 0.06 gm. (1 grain) of soluble iron arsenite, dissolved in 1 c.c. (16 minims) of distilled water, representing closely 0.00092 gm. (1/70 grain) of arsenic trioxide and 0.0092 gm. (1/7 grain) of metallic iron.

Prepared by Sharp & Dohme, Baltimore, Md.

ANTIPYRINE SALICYLATE—Antipyrinæ Salicylas.—(See N. N. R., p. 24).

Proprietary Preparation:

SALIPYRINE.—A name applied to antipyrine salicylate.

Manufactured by J. D. Riedel Aktiengesellschaft, Berlin, Germany. (Riedel & Co., New York.) U. S. patent No. 444004. U. S trademark No. 19043.

PARA COTO—(Coto[1]).—The bark of an undetermined South American tree, probably a species of Cryptocarya.

Para Coto occurs in pieces which are of considerable size and thickness, 30 cm. (12 in.) wide and 1.5 cm. (⅝ in.) thick. The outer surface is of reddish-brown or cinnamon-brown color. It is sometimes fissured longitudinally and transversely, and sometimes nearly smooth, with occasional patches of whitish cork. The inner surface is coarsely striated. It breaks with a fibrous, splintery fracture, and the smoothed transverse section exhibits a thin, brown cork within, which is a narrow cortex separated by a line of sclerenchymatous cells from *the very thick bast*, which is well characterized by the presence of abundant groups of sclerenchymatous cells. The odor is spicy and characteristic, the taste aromatic and pungent. (Para coto is exported from Para at the mouth of the Amazon, and should therefore be called Para coto and not paracoto.)

The chief constituent of Para coto is paracotoin, an indifferent crystalline, bitter principle alo[illegible] [illegible]l hydrocotoin protocotoin, methyl [illegible] phenyl coumalin, piperonylic acid, vo[illegible]

Para coto is distinguished [illegible] of nitric acid on the ether extractive matter. In the case of Para coto the result is the formation of a yellow color and in the case of coto a red color appears.

Actions and Uses.—Paracotoin is irritant to the gastrointestinal tract and is similar to cotoin but is weaker. Para coto is used like coto as an appetizer and for diarrhea and dysentery and similar disorders.

Dosage.—0.05 to 0.5 Gm. (1 to 8 grains).

PARACOTOIN.—A principle, $C_{12}H_8O_4$, from Para coto.

Para coto is extracted with ether and the ether extract distilled. The residue is fractionated by repeated crystallizations from hot alcohol. The first body to separate out is paracotoin.

Paracotoin is a pale yellow, crystalline body, neutral in reaction, tasteless and odorless, melting at 149°-152° C. (300.2°-305.6° F.). It is difficultly soluble in water, but easily in ether, chloroform and boiling alcohol. Concentrated sulphuric and nitric acids dissolve it, forming a yellowish-brown solution. On boiling with a solution of caustic alkalies, a colorless crystalline body, melting at 82°-83° C. (179.6°-181.4° F.), and having the odor of coumarin is formed; this body is acetopiperon (paracumarhydrin) $C_9H_8O_3$ or $C_6H_3\ O_2CH_2.CO.CH_3$, and paracotoic acid $C_{12}H_{10}O_5$ a yellow amorphous mass melting at 108° C. (226.4° F.). Paracotoin fused with potassium hydroxide yields principally piperonylic acid $C_8H_6O_4$.

1 Gm. of paracotoin shaken up with 10 Cc. of fuming hydrobromic acid forms a semi-solid mass of yellow crystals, which on drying over potassium hydroxide lose hydrobromic acid. This residue decomposed with water and recrystallized forms paracotoin, recognized by its crystalline form and melting point.

By gradually adding about 1 Gm. paracotoin to about 10 Cc. concentrated nitric acid, a red-brown solution will result, which, when heated for a short time on the water bath and cooled, deposits a yellow crystalline mass. This product recrystallized from acetone and then from benzene or glacial acetic acid forms golden yellow crystals, melting at 195° C. (323.0° F.). This body is dinitro paracotoin, probably of the formula $C_{12}H_6\ (NO_2)_2O_4$.

An excess of bromine added to a 10 per cent. solution of paracotoin in chloroform cooled to 0° C. produces a deep yellow precipitate, which loses hydrobromic acid, and when recrystallized from alcohol forms the mono-bromide of paracotoin, melting at 200°-201° C. ($C_{12}H_7BrO_4$).

Actions and Uses.—See para coto.

Dosage.—0.06 to 0.18 Gm. (1 to 3 grains).

MERGAL.—Mergal is a mixture of 1 part of mercuric cholate and 2 parts of albumin tannate put in capsules, each capsule said to contain approximately 0.15 Gm. (2¼ grains) of mergal equivalent to 0.05 Gm. (¾ grain) mercuric cholate and 0.1 Gm. (1½ grains) tannin albuminate. Mergal contains approximately 4.4 per cent. mercury.

Mercuric cholate is prepared by a patented process, mixed with albumin tannate, and inserted into gelatin capsules in the usual way.

Mergal is a yellowish white, loose, somewhat light powder, insoluble in water and alcohol and almost insoluble in solution of sodium chloride.

When 0.1 Gm. of mergal is shaken with a few drops of saturated solution of cane sugar and underlaid with concentrated sulphuric acid, a purplish red to reddish violet zone is produced.

If 0.2 Gm. of mergal is warmed on the water bath with 10 Cc. of hydrochloric acid for about fifteen minutes and the evaporated water replaced after cooling and filtering, there results a colorless or slightly yellowish solution which gives a black precipitate with solution of hydrogen sulphide. The same filtrate gives with a drop of stannous chloride solution an immediate precipitation of metallic mercury.

Mergal should leave no weighable residue on incineration.

0.2 Gm. of mergal boiled for one minute with 20 Cc. of water gives a clear filtrate which is colored dark violet on the addition of a drop of solution of ferric chloride.

0 1 Gm. of mergal when heated with a mixture of 5 Cc. of concentrated sulphuric acid and 5 Cc. of water to boiling, produces a turbid reddish solution. The filtrate after dilution with 3 to 4 parts of water and the addition of a drop of solution of copper sulphate gives on careful underlaying or on mixture with an excess of sodium hydroxide solution an evanescent violet-red color. Mergal should be protected from the light.

Actions and Uses.—Mergal is said to pass through the stomach without decomposition and to be decomposed into its constituents in the small intestine, where the mercury is quickly absorbed into the blood and excreted through the kidneys. It is said to be useful in all forms of syphilis and in the para-syphilitic affections, such as diabetes and general paralysis. It is also said to be useful for the chronic intermittent treatment according to the method of Fournier and Neisser.

Dosage.—One capsule three times a day after meals, gradually increasing to two capsules five or six times a day.

Manufactured by J. D. Riedel Aktiengesellschaft, Berlin, Germany (Riedel & Co., New York). U. S. patent No. 811193. U. S. trademark No. 53919.

N. N. R. ARTICLES AMENDED

ADRIN SOLUTION 1-500

The H. K. Mulford Co. has informed the Council that the epinephrine used in making adrin solution 1-500 (see N. N. R., 1909, p. 53) is no longer made by the method of Abel, but by the method of v. Fuerth (Hoppe Seyler's Zeitschrift für physiologische Chemie, vol. xxvi, p. 15).

ARTICLES ACCEPTED FOR N. N. R. APPENDIX

Manhattan Eye Salve Co., Owensboro, Ky.:

Argyrol Ointment (M. E. S., Co.).—An ointment said to consist of argyrol 10 per cent.; hydrous wool fat, 25 per cent.; white petrolatum, 65 per cent. Put up in collapsible tubes, for application to the eye.

Dionin Ointment (M. E. S. Co.).—An ointment said to consist of dionin 5 per cent.; white petrolatum, 95 per cent. Put up in collapsible tubes, for application to the eye.

Holocain and Adrenalin Ointment (M. E. S. Co.).—An ointment said to consist of holocain 1 per cent.; adrenalin chloride, 4 per cent.; hydrous wool fat, 10 per cent.; white petrolatum, 85 per cent. Put up in collapsible tubes, for application to the eye.

Sharp & Dohme, Baltimore, Md.:

Compressed Tablets Atoxyl and Iron.—Each is said to contain atoxyl 0.02 gm. (1/3 grain) and ferrous lactate 0.06 Gm. (1 grain).

(*To be continued*)

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[1] While commercially, Para coto and coto are sold indiscriminately, botanists make a definite distinction between them

Therapeutics

ALCOHOL

In spite of the many discussions on this subject, the question is still open as to whether alcohol should ever be used as a therapeutic agent.

The whole general discussion of alcohol is grossly unfair to it as a component part of the materia medica. Who would think of describing the poisonous effects of large doses, or the dire effects from the prolonged use, of some drug of the Pharmacopeia other than alcohol, when the discussion was on the value of that drug as a therapeutic measure? Large doses of alcohol are harmful; repeated large doses are pernicious; and an alcohol habit is ordinarily bad physiologically, pathologically, and morally. But if we are to be fair to alcohol as a drug we must discuss it as we would any other drug, viz.: describe its physiologic action in therapeutic doses, the indications that it may therefore meet, and the undesired symptoms and conditions that it may successfully combat. Next we must discuss the possibility of some other drug acting as well to meet these indications. In other words, are there other drugs that act physiologically similar to alcohol? Next, does this drug cause the alcohol habit if used therapeutically, and, if so, how frequently?

To answer the last question first, very rarely does any patient acquire the alcohol habit from its medicinal use during an acute disease. If such has occurred, it was because of a tendency to the habit, inherited or acquired, and it was only a question of opportunity or environment for it to develop. A physician should not be excused, except perhaps in rare instances, and that generally in old age, who orders alcohol for a chronic condition, and the legitimate use of alcohol in chronic conditions is so limited as to be hardly a subject for discussion.

We then come to the physiologic action of alcohol that is desired or can be utilized to combat diseased conditions or undesired or dangerous symptoms. To discuss this properly, alcohol must be classified therapeutically. The objects for which it has been used, and its physiologic action, have caused it to be classed as a stimulant, a vasodilator, a narcotic, a hypnotic, and a stomachic.

It is a mistake to class alcohol as a stimulant, as this carries with it a mistaken idea of the physiologic action. While it may stimulate the heart and raise arterial pressure momentarily, its secondary effect is a cardiac depressant and a vasodilator. The only time when alcohol is a stimulant is in acute cardiac failure, and then it is stimulant to the heart only before its absorption, reflexly from the irritation, when taken in concentrated solution, of the mucous membrane of the mouth, pharynx, esophagus and stomach, the rectum, if it is administered as an enema, and the tissues, if it is given hypodermatically. To obtain such stimulation it is, of course, a recognized fact that the alcohol must be a strong preparation, either brandy, whiskey, gin, rum, or champagne. This reflex irritation through the vasomotor center temporarily raises the blood pressure, and perhaps through the accelerator nerves stimulates the heart. To keep up this stimulation, another dose must soon be given, in from fifteen minutes to half an hour or an hour, depending on the prolongation of the heart weakness. The dose of alcohol for such stimulation should be small in order that the results from the subsequent absorption will be the minimum, as the vasodilator effects are not desired. If the alcohol is administered too frequently, it accumulates in the system before the previous doses can be burned or eliminated, and then to obtain stimulation it will be necessary to give a larger, concentrated dose to cause sufficient irritation and stimulation to overcome the depression of the previous doses. The result of such medication is very obvious. Soon the vasodilatation is increased, the heart is depressed, the nervous system more or less paralyzed, and depression is added to depression; and the treatment is vicious. Consequently, the only excuse for using alcohol in any form as a cardiac or circulatory stimulant is when the depression or syncope is short lived, or perhaps as a primary stimulant in acute collapse. In any prolonged circulatory depression alcohol is *contraindicated.*

In conditions of prolonged fever in which alcohol is given no more frequently, for any length of time, than every three hours, one dose is probably eliminated before the next one is administered. The real value of its administration is due to the dilatation of the peripheral blood vessels, which equalizes the circulation and reduces the temperature.

As an actual narcotic alcohol is rarely used, and should not be so used. As a secondary effect of therapeutic doses its general tendency to quiet nervous irritability in seriously ill patients may be desired and utilized, but to use alcohol as a narcotic directly when other symptoms do not indicate its use is ordinarily inexcusable. In serious feverish conditions undoubtedly the narcotic action of alcohol quiets a patient who is highly alert to his danger, and may be of distinct advantage, as mental worry and anxiety are aids and abettors of disease which should be overcome by any legitimate means.

The discussion of the use of alcohol really resolves itself into a discussion of its value as a vasodilator. Vasodilatation is often indicated in feverish processes, i. e., in acute disease, and at any time when the pulse tension is high and the surface circulation sluggish. If we can slow the heart, dilate the peripheral blood vessels, increase perspiration, and quiet the nervous excitation and restlessness, our acutely sick patient is not only more comfortable, but in a safer condition and better able to withstand the acute disease. Alcohol in proper doses will do this. A rapid heart will become slower and regular, the blood vessels fuller and softer, the skin warmer, and the circulation be in better equilibrium, i. e., internal congestions will be relieved and the surface circulation, even in the feet, improved; normal perspiration is established; the brain is relieved of pressure by more blood going to the surface of the body; the slight narcotic effect of a small dose of alcohol quiets and may cause sleep, and the patient is improved.

A physician who says he has not seen these good effects from alcohol has not practiced medicine in acute disease. If alcohol acts undesirably, the following [illegible] flushing of the face, dry skin, dry [illegible] bounding pulse, and the odor of alcohol on the [illegible] positively show that alcohol is [illegible] the dose is too large, and until lately the consulting physician often saw delirium and meningismus, especially in patients suffering from typhoid fever and pneumonia, which was caused by too large and too frequent doses of alcohol.

The successful use of alcohol in feverish processes means a careful analysis of the need for it, a careful study of its action, and then a regulation of the dose and frequency to obtain the desired, and none of the undesired, effects. In other words, the action desired from a dose of whiskey or brandy, or its equivalent, is a warming of the surface of the body, a fuller pulse, a moistening of the dry skin, and a quieting effect on the brain.

Now, with the well-known indications for alcohol present and some treatment needed, can we surmount the condition by any other treatment? The drugs or methods that act somewhat similarly to alcohol are aconite, coal-tar products, nitroglycerin, bromids, hypnotics, and cold. Each has its disadvantages. *Aconite* is a vasodilator, but should be used only in the beginning of acute disease, and then rarely, as cardiac depression may start early in acute conditions and may be hastened by aconite. Coal-tar drugs may be of temporary advantage, but certainly are positively contraindicated, on account of the cardiac depression they all cause, after the first day or two of the feverish process. Nitroglycerin with high arterial tension and a dry skin is often of advantage and may be often substituted for alcohol in acute fever. It has no quieting effect, however, and even in small doses often causes unpleasant momentary headache. However, this drug may be relied on more than any other to meet the indication for which alcohol would be used in acute sickness. There is no question that bromids, chloral, or the synthetic hypnotics are often needed and are often of great value in acute sickness, but if the illness is prolonged, the circulation weak, and the heart's action impaired, any depressant, as all of these hypnotics are, would be and is bad treatment. The value of cold applications in fever, when the temperature is high, in causing, by the coincident friction and the flushing of the skin, a bettering of the surface circulation, a quieting of the patient, and an improvement of the action of the heart is, of course, well understood and generally utilized to-day, and the gentler methods of cold applications are much better than the more severe. However, if the temperature is low, of course, cold applications are contraindicated.

In other words, the positive value and advantages of the proper use of alcohol as a drug in acute disease, when the condition indicates the necessity for physiologic action similar to its activity, cannot be gainsaid. Alcohol should certainly not be used because a patient is ill or has a fever, but very frequently nothing in the drug line will take the place of alcohol as a medicine. A dose larger than from one to three teaspoonfuls, once in three hours, is probably never indicated, and if given should certainly not soon be repeated.

As a food alcohol may save the burning of some tissue during acute fever when the nutriment is not sufficient, or is not metabolized sufficiently, to save fat and muscle. Hence in fevers it has a distinct food value, but probably no better than that which would be obtained from sugar.

In continued cardiac failure or depression, whether in patients suffering from chronic disease or in patients with acute disease, alcohol is contraindicated, strychnin being generally the best medicinal treatment. Consequently strychnin should not be begun early in acute disease, but be reserved until it is needed and becomes a life saver.

As a nutrient in chronic diseases alcohol is uneconomical and generally a positive disadvantage to the system.

As a vasodilator in chronic high arterial tension it should ordinarily not be used. This indication for treatment is present in arteriosclerosis and gout, and is a symptom and sign in late middle life or old age. If the condition requires treatment it is much better managed by nitroglycerin, thyroid extract, potassium iodid, or small doses of chloral. If arteriosclerosis is present and the patient is well along in life and is accustomed and has been accustomed to take alcohol regularly in doses that do not intoxicate, it may be unwise to stop the vasodilating effects of the alcohol until it has been ascertained that some other treatment will be as conducive to his well-being. In other words, the physiologic relief from high tension which he has been accustomed to acquire by taking alcohol cannot be abruptly stopped without due consideration of the consequences of withdrawing the drug.

Though alcohol in proper dose and in the proper form has an hypnotic effect not only by dilating the peripheral vessels and relieving the tension of the cerebral circulation, but also by its quieting effect on the nervous system, it should not frequently be considered or used as a hypnotic. Still, instances occur both in acute illness and in debilitated patients where it seems to be the safest and the most satisfactory of hypnotics Of course, when alcohol is used thus as a drug it should be stopped by the physician as soon as he considers that the patient can tolerate another hypnotic, or that the positive indication has ceased to exist. In very old people who cannot sleep, alcohol as a "night-cap" has been frequently advised. Sleeplessness in senility is frequently due to high tension circulation, and one can often cause these patients to sleep as well with small doses of nitroglycerin, administered at bedtime, as by alcohol so administered.

Alcohol has been largely used and frequently ordered, and the laity often resort to it to abort acute colds. There can be no discussion of the fact that the physiologic action of a good dose of alcohol combined with hot water, and the patient placed in a warm room, will cause perspiration and the re-establishment of surface circulation sufficiently to relieve internal congestions, and a cold with a localized congestion may thus be aborted. On the other hand, hot baths, combined with hot lemonade, or hot tea, or other hot non-alcoholic liquids, or a dose or two of a coal-tar sweat-producing drug, or a Dover's powder, and the quickly acting saline cathartics, will accomplish as much in aborting colds as will alcohol, and therefore it is rarely necessary to resort to alcohol in such a condition.

The local uses of alcohol are numerous and valuable, but need not be discussed, as they are well understood.

A Good Governor.—It's a good thing sometimes to have a man in the governor's chair who knows a little about the drug business. Governor Johnson of Minnesota promptly signed what is known there as "the nasty ad. bill" which forbids the publication of indecent advertising of the lost manhood variety. We never have been able to understand why a quack doctor could publish with impunity in his advertisements things that would cause him to be kicked off the front doorsteps if he said them instead. The newspapers that take that sort of stuff, though—and there are lots of them—always profess entire inability to see anything objectionable about it: which shows that they ought to consult an oculist. In Minnesota they won't need to see: the law is going to do a little seeing itself. And that reminds us. We have in Detroit a paper that has for its motto, "Every column clean." What is better, *Saturday Night*—that's its name—lives up to it. The publishers have had plenty of off-color advertising offered to them and they say, "We could have used the money, but we didn't want it that much." Governor Johnson, you remember, used to be a drug clerk. He hasn't forgotten some of the things he learned in those days.—*The New Idea.*

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[*For other information see second page following reading matter*]

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TUBERCULIN AND IODID OF POTASSIUM

Beginning with Koch's discovery of tuberculin and its use later as a diagnostic means, various attempts were made to obtain bacterial products which might be used as specific diagnostic measures. A noticeable result of these attempts was the discovery of mallein and its use in the diagnosis of glanders. More recently work has been carried out showing in several instances the diagnostic value of injections of certain dead bacteria in infections caused by those particular organisms. Of special importance in this connection seem tó be the gonococcus reactions of Irons[1] and the ocular typhoid reaction first described by Chantemesse and modified by Hamburger.[2]

In 1897 Rondot demonstrated that weak doses of potassium iodid produced, in individuals with incipient tuberculosis, reactions which were similar to those produced by tuberculin and were supposed to be caused by the liberation of tuberculin from the lesions. Later its use as a diagnostic measure fell into disrepute because of the fact that such a procedure was not infrequently followed by a generalized tuberculous infection. In view of the somewhat similar characteristics of leprosy and tuberculosis the finding of Marchoux and Bourret,[3] that potassium iodid produces a similar reaction in lepers, is of interest. They conclude that the drug exercises on the lepra bacillus a destructive action which liberates a toxin acting in the manner of tuberculin in the tuberculous. Of further interest in this connection is the observation by Slatineano and Danielopol[4] that the subcutaneous injections in lepers of three milligrams of tuberculin produced a rise in temperature which in some cases amounted to as much as 3.7 C. Babes[5] later confirmed these observations, but because of the fact that the reaction appeared later and continued longer than in tuberculosis, and that sometimes it occurred only after several injections, he disagreed with the conclusions of these authors, who believed the reaction to be due to associated tuberculosis. The experiment seems to be open to criticism on the grounds that three milligrams of tuberculin make an excessive dose, and, furthermore, the possibility of inciting a hypersusceptibility to tuberculin itself by repeated injections would have to be considered.

Sorel[6] has recently investigated the cause of the reaction produced by potassium iodid in tuberculous subjects. He found that guinea-pigs which had been made tuberculous experimentally and had been given potassium iodid in doses considerably less than lethal amounts died of generalized miliary tuberculosis, and usually several weeks earlier than those which had received no iodid. He attributed this to the fact, shown in his experiments, that the large phagocytic cells (macrophages) were increased in number, thus facilitating the ingestion of the tubercle bacilli, but at the same time permitting their dissemination in greater numbers in the organism. Furthermore, he found that the actions of the iodid and tuberculin, although comparable, were not identical; for an intraperitoneal injection of potassium iodid in a tuberculous guinea-pig excited the formation of an exudate which contained no tuberculin. Whether his explanation of the fact that potassium iodid is dangerous to the tuberculous be correct or not, Sorel's results serve to emphasize the dangers of the indiscriminate drugging of tuberculous patients so commonly practiced.

THE RESISTANCE OF THE BODY TO SIMPLE POISONS

In striking contrast to the rapid extension of knowledge concerning the processes of defense of the animal body against the complicated bacterial toxins and the venoms, is the failure to explain satisfactorily the means by which tolerance to alkaloids and certain mineral poisons is acquired. Because these poisons are of known chemical composition, and infinitely more simple in structure than the toxins, it would seem that the problem should be correspondingly simple, but the reverse has so far been the case. Although a few early experimenters asserted that they secured an antitoxic serum by immunization of animals to morphin, their results have not been confirmed, and, supported by Morgenroth's negative results with this alkaloid, Ehrlich propounded the dictum that the body does not manufacture antibodies for substances of simple, known chemical composition. This position may become untenable, however, for from time to time reports appear which maintain that antitoxic serums of greater or less efficiency can be secured for this or that non-protein poison.

In this country Ford's[1] researches have been particularly striking, demonstrating that immunization to extracts of the poisonous mushroom, *Amanita phalloides*, causes the serum to become distinctly antitoxic for the hemolytic poison, which is a glucosid. The antitoxic power is, however, by no means comparable to that obtained by immunization with toxins, for one cubic centimeter of the immune serum neutralizes but five to eight times a fatal dose of the amanita extract. An antiserum of about equal strength was also obtained for the poisonous glucosid of the poison ivy (*Rhus toxicodendron*). Somewhat similar but less striking results have been obtained by immunization to cantharidin, which is an aromatic ring compound of comparatively simple chemical structure, Champy[2] securing a serum which neutralized one milligram of the poison when given in 20 c.c. doses. Resistance to arsenic in increasing doses, however, does not seem to depend on any change in the serum, but rather on local changes, such as decreased absorption from the alimentary tract.

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[1] Trans. Jour. Infect. Dis., 1908, v, 279.

[2] Hamburger, W. W.: The Ocular Typhoid Reaction, The Journal A. M. A., 1908, l, 1344.

[3] Marchoux and Bourret: Bull. Soc. path. exot., 1908, vi, 347.

[4] Slatineano and Danielopol: Compt. rend. Soc. de biol., 1908, lxv, 528, 530.

[5] Babes: Compt rend Soc de biol., 1909, lxvi, 641.

[6] Sorel: Ann. de l'Inst. Pasteur, 1909, xxiii, 533.

[1] Ford: Jour. Infect. Dis., 1907, iv, 541.

As the most common and most striking illustration of acquired resistance to a poison of simple chemical composition, the means by which tolerance to morphin is secured has been particularly investigated. About once in so often some one claims to have secured an anti-morphin serum, but even the slight activity claimed for these serums seems not to be satisfactorily proved on critical investigation. Perhaps the most distinct advance was made by Faust, who finds that dogs habituated to morphin have an increased power to destroy the poison. If morphin is injected subcutaneously into normal dogs, over three-fifths can be recovered in the feces, by which route it is chiefly eliminated; but, as toleration to morphin increases after repeated doses, the amount excreted in the feces decreases until in dogs made highly resistant there may be none excreted at all. As the organs of such habituated animals contain but traces of morphin it is apparent that the power to destroy morphin must have been greatly increased.

This work has been recently extended by W. Rübsamen,[3] who wished to learn if this destruction of morphin is rapid enough to account for the resistance of morphin habitués, who must otherwise receive in their central nervous system after subcutaneous injection of the enormous doses to which they are accustomed, many times the amount of morphin necessary to kill a normal person. Working with rats he found, as Faust had found with dogs, that the power to destroy morphin increases with habituation; this destruction is not rapid enough, however, to prevent the presence in the circulation during the first hour after injection of maximal doses into immune animals, of enough morphin seriously or fatally to poison a non-immune animal. Therefore, it would seem that the increased power of destruction of morphin is not alone sufficient to account for high degrees of resistance, and with this means of defense there must be a decreased susceptibility on the part of the cells.

VITAL STATISTICS FOR 1908

Some interesting facts are to be found in the Census Bureau Bulletin 104, compiled by Dr. Cressy L. Wilbur, Chief Statistician of the Bureau of Vital Statistics, and transmitted by Director of the Census E. D. Durand to Secretary Nagel of the Department of Commerce and Labor.

The conclusion reached in the report is that the civilized world has reached an era of low mortality. The death-rate in the registration area in 1908 was 15.3 per thousand of population. This rate, Dr. Wilbur states, is probably the lowest that has ever occurred in the United States. The death-rate in the rural portion of the registration states is even lower, being only 14 per thousand, while that of the urban population was 16.5 per thousand, the latter including all cities having a population of over 8,000 in 1900. Such a death-rate would have been considered impossible, or at least remarkable, in former years. Nor are present conditions limited to the United States. In the same year the death-rate for England and Wales was only 14.7 per thousand and of London 15.8. The death-rate of England and Wales has been under 16 per thousand since 1893, with the single exception of 1904, when it was 16.2.

The total number of deaths reported in the registration area for 1908 was 691,574, or only 4,540 more than the number of deaths reported for 1907, although the registration area for 1908 was increased by the addition of Washington and Wisconsin. The year 1908 must, therefore, be regarded as one of extremely low mortality throughout the United States, so far as can be determined from available data. It was marked by a general absence of severe epidemics, as well as of unusual mortality from other causes.

Comparison of deaths by sexes shows that females contributed a slightly larger proportion of deaths in 1908 than in 1907, the percentage being 45.7 of female mortality and 54.3 of male mortality. Classified according to age, the returns for 1908 show a slightly increased percentage of deaths of infants under one year, but the ratios for the individual years from 1 to 4 are the same as in 1907. A very close correspondence appears in the mortality rate of the five-year age periods from 5 to 50, while the showing for 1908 for the age periods from 15 to 49 is slightly more favorable than in 1907. Nearly one-fifth of all deaths for the year were in infants under one year of age, and over one-fourth of all deaths occurred in children under 5. One-fourth of all deaths registered were those of persons born outside of the United States. This, however, does not necessarily indicate a lower death-rate among native-born Americans, but is partly due to the fact that the states having the largest proportion of native-born Americans are those in which it is the most difficult to secure the passage of effective registration laws; in other words, it would seem that the larger the proportion of native-born American citizens the more difficult it is to pass and enforce a vital statistics law.

Comparison of the year's record by months shows that the highest death-rate occurred in January with 67,763 deaths, while the minimum death-rate occurred in June with 49,701 deaths. Comparison by states shows variation from 18.4 per thousand for California to 10.1 for South Dakota. With the exception of South Dakota, all the registration states show a lower death-rate for

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[2] Jour. de physiol. et de path. gén., 1907, ix, No. 5.
[3] Arch. f exper. Pathol. u. Pharmakol., lix, 227.

1908 than for 1907, the death-rate for 1908 being in several cases the lowest on record for the state. In Massachusetts the rate for 1908 (16.5) is the lowest on record, except 1904, in which it was 16.3. In thirty-five cities of 100,000 inhabitants or over, the 1908 death-rate was lower than in previous years in all except five.

The registration states for 1908 were California, Colorado, Connecticut, Indiana, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, South Dakota, Vermont, Washington and Wisconsin, to which should be added the District of Columbia and seventy-four registration cities in non-registration states, making an aggregate registration area for 1908 having a total estimated population of 45,028,767, or 51.8 per cent. of the total estimated population of the continental United States, which is estimated at 86,874,990. The addition of Ohio for 1909 has increased the percentage of population embraced in the registration area to 55.2. It is no credit to the profession, to the people or to our lawmakers that 44.8 per cent. of the population of the United States is still in no way represented in the mortality reports of the Census Bureau and that only eighteen states have as yet been admitted to the registration area. Not a southern state is as yet represented nor is there a state, north or south, in which there are any adequate birth returns whatever. Such a lack of systematic and accurate methods for the collection and preservation of records on such important matter as births and deaths is no credit to the nation, and constant efforts should be exerted by the medical profession for the education of the public, and particularly of legislators, until the entire nation is included in the registration area.

THE ROCKEFELLER GIFT FOR THE EXTERMINATION OF THE HOOKWORM

One of the apparently insolvable problems of the South for generations past has been the "poor white." Historians have asserted that he was of the purest Anglo-Saxon blood—the same stock which rose to eminence in many a Southern and New England family of long lineage and high social standing. Yet his uselessness as a worker and his gradual, but apparently hopeless, degeneration have been generally admitted, though unexplained. In 1902 Dr. Charles W. Stiles, Chief of the Division of Zoology in the Hygienic Laboratory, announced that the poor white was not a wilful degenerate, but a helpless invalid, and that the cause of his condition was the *Uncinaria* or hookworm, an intestinal parasite, probably brought from Africa by slaves many generations ago. Estimates made by Dr. Stiles showing the wide-spread distribution of the disease and the enormous number of its victims (at least two million), while received with incredulity at first, have since been independently confirmed by other observers. This discovery is one of the greatest triumphs of medical laboratory work in this country, and is another illustration of the great value of laboratory researches in public health matters. If the Hygienic Laboratory in its entire existence had made no other contribution to medical knowledge, this work alone would more than justify its establishment.[1]

It would naturally be supposed that the conclusive evidence presented by Dr. Stiles, showing not only the cause but the remedy, at once would have resulted in vigorous efforts on the part of the government to eradicate this disease, the effects of which have played so important a part in the economic and social life of a large section of the country. Yet seven years have elapsed since both the cause and the remedy became known and no steps could be taken for the extermination of this parasite—fittingly named by Dr. Stiles *Necator americanus*—"the American murderer"—because there seems to be no law authorizing the expenditure of money by the national government for this purpose. How different would it have been had the lives and health of a few million horses, cattle or sheep been involved instead of merely a few million human beings! Nothing could better illustrate the need of a bureau of public health, authorized and equipped to carry out at least an aggressive campaign of education regarding the cause, prevalence and remedy of such diseases.

But where the state has failed the individual has come to the rescue. Mr. Rockefeller's magnificent gift of one million dollars to combat hookworm disease in the South is characteristic of the times and of the man. In previous generations and ages, benevolent and charitably inclined persons gave money for the establishment of hospitals, asylums and institutions for the treatment of the individual. The charity of the middle ages as well as that of the modern civilized world until recently consisted primarily in relieving the sufferer without regard to the conditions or causes underlying and responsible for his disease or misfortune. The plagues of the middle ages were accepted as visitations of God, as scourges inflicted by the Almighty on a sinful world. They were not to be avoided or prevented, and the charitably inclined could only hope to relieve a few of the victims. To-day the ravages of disease are recognized as due to the ignorance or carelessness of human beings, to be controlled, and if possible suppressed, by education and care. It is significant and characteristic that an American business man, successful above all others in organizing gigantic mercantile machinery of world-wide scope, should be dissatisfied with palliative methods of relief which deal with the accidental and symptomatic, rather than with the essential and causative factors. This gift is not the result of a sporadic or accidental impulse. It is in harmony with the modern spirit to regard the problem from the standpoint of society rather than that of the individual, and to seek to abolish disease as a factor in the social equation, rather than merely to relieve the accidental victim. The diversion of this vast sum from private means to public usefulness is also significant and gives promise of the development of a spirit of new philanthropy.

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[1] An editorial in the *Times Dispatch*, Richmond, Va., is worth quoting in this connection:

"In all the annals of American science there has been no more striking tribute to the work of a single man than that paid by Mr. Rockefeller in his gift for the extermination of the hookworm disease. The oil king's donation was as much an honor to Dr. Charles Wardell Stiles as it was a credit to the giver. When Dr. Stiles began his study of hookworm, almost eight years ago, he had only a theory on which to work. He had no predecessors; he had few sympathizers. He had only the hypothesis that a disease which had appeared in Europe might also be found in America. At a time when his faith almost failed him he found the parasite, and observed and studied its dire effects. Enfeebled bodies, dwarfed minds, chronic debility and acute physical maladies proved the melancholy vindication of his theory. The ridicule which Dr. Stiles' discoveries received at the outset now seems itself ridiculous. The idea of a germ of laziness could not at first be assimilated by the public mind. The hookworm was soon a subject of popular jest, and its finder became the butt of many dull jokes. But public disbelief and contempt only spurred Stiles to repeat his experiments and to stand on his discoveries. If any lingering doubt remained as to the accuracy of his observations, that doubt is banished by the confidence of the board named by Mr. Rockefeller. When William H. Welch and Simon Flexner, America's greatest pathologists, lend their support to a campaign against the hookworm, popular support must follow. Their approval is the seal of scientific authority."

As far as the medical profession is concerned, there can be but one feeling regarding Mr. Rockefeller's gift, that of gratitude for his generosity mingled with admiration for the insight and sagacity of the business man who could so clearly see the necessity of striking at the root of the evil. That the money will be wisely and effectively used is guaranteed by the character of the men composing the commission, as well as by the positive demonstration of the curability of the disease. The establishment and endowment of the Commission on Hookworm Disease will do much to arouse interest in public health matters in this country, since it is well known that Mr. Rockefeller exercises the same discriminating care in benevolent and educational contributions that he does in his private business affairs. The fact that he considers the present situation so urgent as to justify the expenditure within five years of a million dollars should furnish food for serious reflection to those responsible for public health legislation. Great sanitary problems, involving the efficiency, health and lives of millions of people, are certainly proper subjects for consideration by the state, yet there is to-day no law authorizing the national government to do such work as Mr. Rockefeller has undertaken personally. The country is to be congratulated that it has private citizens who can undertake a work of such magnitude, yet it is not to our credit as a nation that such crusades against disease must be financed by individuals. It should not be necessary for the individual to do the work of the nation.

BRITISH NEWSPAPERS AND THE NOSTRUM BUSINESS

The British Medical Association has recently issued a small book entitled "Secret Remedies," which contains the results of analyses made by the association of the nostrums most widely advertised in the British press. In many respects it is similar to the booklet that THE JOURNAL has been getting out for some years past—the Propaganda for Reform in Proprietary Medicines. The British book differs from the Propaganda in that it deals exclusively with the so-called "patent medicines" —the "ethical" nostrums not being considered. To increase the British public's knowledge of the "patent medicine" evil, "Secret Remedies" is advertised and sold to the public. When the advertisement was offered to some of the large London dailies and weeklies they promptly refused it. As the book is not only of general interest, but of distinct educational value, the newspapers as "public educators" might reasonably have been expected not only to carry the paid advertisement of it, but also to have reviewed the work at length for the benefit of their readers. It is evident, however, that the same evil influence which the Proprietary Association of America wields over the American press is exerted by its British counterpart, the Proprietary Articles Trades Association, over the newspapers of the United Kingdom. The "patent medicine" men across the water, like their brethren on this side, have seen the handwriting on the wall and they may be expected to employ the same tactics to stem the tide of popular disapproval that have been used in this country. As to the attitude of the press we cannot do better than quote the closing words of our British contemporary: "Advertisement, bold and free and mendacious, is the motive power in the nostrum business, and the refusal of certain newspapers even to insert an advertisement of a book telling the public the truth about the best known of them is disquieting evidence of the kind of reception which any proposals for legislation to control a trade, which is really nothing short of fraudulent, is likely to meet from a large section of the press."

Medical News

ARKANSAS

Medical Society Incorporates.—The Pulaski County Medical Society was incorporated October 19 at Little Rock, on the petition of Drs. Edwin P. Bledsoe and Orange K. Judd.

Medical School Opens.—The Medical Department of the University of Arkansas, Little Rock, opened for its annual session September 30. Dr. Morgan Smith delivered the principal address.

Personal.—Dr. Caleb E. Witt, Little Rock, has been appointed medical director of the People's Health and Accident Insurance Company, vice Dr. Burley C. Bain, who remains as secretary of the board.——Dr. James C. Weld has been elected president of the Stuttgart Board of Health.

State Sanatorium.—By unanimous vote the State Sanatorium Board has chosen Booneville, Yell county, as the location for the proposed sanatorium. The offer of Booneville includes the gift of 1,000 acres of land, the construction of a macadam pike from the site three miles to the station in Booneville, the sinking of wells for water supply, and the construction of a bridge over the stream between the site and the city.

CALIFORNIA

Antituberculosis Organization.—Permanent organization was effected by the Alameda Antituberculosis Society, October 15, with the following physicians as officers: Dr. Weston O. Smith, Alameda, vice-president, and Dr. James K. Hamilton, Alameda, a trustee.

Sanatorium Not Destroyed.—The report that Burke's Sanatorium, near Santa Rosa, was completely destroyed by fire last month is incorrect, as only thirteen tents used by patients during the summer months and a cottage occupied by a member of the attending staff were destroyed. The main building was in no way damaged.

Hospital News.—The Board of Supervisors of Contra Costa county has set aside $25,000 for the construction of the new county hospital.——On November 6, the cornerstone of the new San Francisco County Hospital, which when completed will have cost about $2,000,000, was laid with appropriate ceremonies.

Personal.—Dr. Julian J. Benton has been reappointed health officer of Berkeley.——Drs. Clark J. Burnham, Robert Hector, and George F. Reinhardt are the medical members of the newly appointed board of health of Berkeley, and Dr. Reinhardt has been elected president.——Dr. Julius C. Egeberg has been appointed assistant surgeon of the Central Emergency Hospital, San Francisco, vice Dr. Charles B. Pinkham, promoted.——Dr. Edouard S. Loizeaux, Patton, for several years a member of the staff of the Southern California State Hospital, has resigned to accept the position of city bacteriologist of Sacramento.——Dr. Lulu H. Peters, Los Angeles, has been placed in charge of the pathologic laboratory of the Los Angeles County Hospital.

GEORGIA

Personal.—Dr. William J. Blalock, Atlanta, has been elected president of the Fulton National Bank.——Dr. T. M. Greene has been elected medical director of the State Sanatorium, and Dr. W. J. Cranston, Augusta, has been elected a member of the staff.——Dr. Odom O. Fanning, Atlanta, has been elected superintendent of the Fulton county almshouse.——Dr. Mark H. Blandford has been appointed city physician of Columbus.——Dr. Charles Pelham Ward, Atlanta, sustained *a serious injury of the eye October 8.——Dr. Joseph W.* Duguid has been selected as city physician of Macon, vice Dr. Edward D. Hope.

Meetings of Physicians.—The members of the Ocmulgee Medical Association and the Eleventh Congressional District, held a joint session at McRae, October 19, organized the Eleventh District Medical Association, and elected the following officers: President. Dr. Jefferson D. Herrman, Eastman; vice-presidents, Drs. Micollins N. Stow, Jesup, and Wade H. Born, McRae; secretary-treasurer, Dr. William E. Miller, Eastman; and censors, Drs. James M. Smith, Valdosta, Benjamin M. Kennon, McRae, and George W. Blanton, Brunswick. The next meeting will be held June 3, 1910, at Brunswick.——At the annual meeting of the Ocmulgee County Medical Association, held in McRae, October 19, Dr. Nathaniel P. Jelks, Hawkinsville, was elected president; Dr. Benjamin M. Kennon, McRae, vice-president; and Dr. J. Cox Wall, Eastman, secretary-treasurer.

ILLINOIS

Examination for Chief of Staff.—Cook County Civil Service Commission began an examination October 28 to fill the position of chief of the medical staff at the Cook County Institutions, Dunning. Sixteen appeared to take the examination, of whom twelve were from Illinois.

Acquitted of Malpractice.—In the case brought by Mr. Garner, Effingham, against Dr. Charles F. Burkhardt, in which $5,000 damages was claimed for alleged malpractice in the treatment of an injured elbow-joint for the son of the plaintiff, the jury on October 28, returned a verdict exonerating the defendant.

Annual Meeting of Western Illinois Physicians.—The annual meeting of the Western Illinois District Medical Society was held in Quincy, October 29, under the presidency of Dr. John W. Adams, Carrollton. The following officers were elected: President, Dr. John H. Rice, Quincy; vice-presidents, Drs. Waldo Fisher, Alton, and John G. Franken, Chandlerville; secretary-treasurer, Dr. William P. Duncan, Jacksonville, and censors, Drs. Robert J. Christie, Quincy, Luther J. Harvey, Griggsville, and Levin H. A. Nickerson, Quincy. The next meeting will be held in October, 1910, at Alton.

Personal.—The trustees of Lincoln State School and Colony have provided for the establishment of a department of clinical psychology in the State Institution for the Feeble-Minded, to be under the care of Dr. Edmund B. Huey.——Dr. Edward Bowe has succeeded Dr. Frank P. Norbury as superintendent of Maplewood Sanatorium, Jacksonville, and Dr. Elmer L. Crouch, late first assistant physician at the Jacksonville State Hospital, has been appointed resident physician and superintendent of the sanatorium.——Dr. Albert Purcell, Streator, has been appointed division surgeon of the Chicago, Ottawa and Peoria Railroad.——Dr. John B. Shaw, Joliet, has sold his home and will locate in Montana.——Dr. Frank G. Crowell, Rochelle, is ill at the home of his brother in Pawpaw, with acute kidney disease.——Dr. Guy G. Dowdall, Clinton, has disposed of his practice and property to Dr. P. J. Gilbey, East St. Louis, and will move to Chicago.——Dr. Alsephus T. Robertson, Ashmore, who has been seriously ill, is reported to be improving.——Dr. George S. Edmonson, Clinton, has been appointed district surgeon of the Illinois Central, vice Dr. Guy G. Dowdall.

Chicago

Fortune Teller Fined.—Mrs. E. Harrison, a fortune-teller on Milwaukee avenue, charged by the State Board of Health with practicing medicine without a license, is said to have been found guilty and fined $100 and costs.

Visitors Discuss Brain Tumors.—The meeting of the Chicago Medical Society, October 27, was devoted to a symposium on tumors of the brain, their diagnosis, and the operative measures for their removal. Drs. William G. Spiller, of the University of Pennsylvania, Philadelphia, and Harvey Cushing, Johns Hopkins University, Baltimore, were the guests of the evening and led the symposium.

Money for Charities.—The concert for the benefit of the German Hospital of Chicago, given October 24, enriched that charity to the extent of more than $9,000.——The net receipts of Tag Day, October 16, were $40,167, which are to be divided among sixteen charities.——The Jewish Consumptive Relief Society realized more than $4,000 from its annual ball held at the First Regiment Armory, October 31.

Fined for Malpractice.—Edward R. Hibbard, Oak Park, formerly president of various medical institutes, who had previously been convicted of having used the mails to defraud, and sentenced to two years in the house of correction, and in whose case the United States Circuit Court of Appeals refused an order for a new trial, was taken before Judge Landis, October 26, and told that if he would plead guilty a fine would be imposed. He pleaded guilty, was fined $1,500, and paid the fine.

Contagious Disease Situation.—The chief of quarantine and disinfection of the department of health comments in the current issue of the *Bulletin* on the contagious disease situation. In less than two months the total number of cases of diphtheria and scarlet fever has trebled. The causes responsible for this are badly ventilated houses and association of the sick with the well. To check the further advance of these diseases, the department gives the following advice:

1. Keep your windows open all the year around; don't be afraid of fresh air and sunshine; you have no better friends and the germs have no worse enemies.
2. Allow no dust, dampness or dirt in your house.
3. If your child shows any suspicious signs of illness keep it out of school and send for the doctor immediately. Delay is dangerous.
4. If it proves to be a case of contagious disease you must strictly isolate it, for in this instance there is danger in numbers.
5. Don't attempt to conceal contagious disease. In doing so you are cheating yourself of the help and protection that the community offers you and such actions may result in nothing short of murder.
6. If you are not able to properly care for the patient at home send him to the hospital, where the best treatment and care is given and no charge made.

INDIANA

District Society Meeting.—At the fourth annual meeting of the Eleventh District Medical Society, held in Huntington, October 21, Dr. William A. Fankboner, Marion, was elected president, and Dr. James L. Gilbert, Logansport, secretary-treasurer. The next meeting of the association will be held in Delphi.

Personal.—Dr. George W. Kirby, Millersburg, expects to sail for Europe November 17.——Dr. Robert Griffis, Middle*town, was stricken with paralysis, October 13.*——Dr. Laughlin O'Neal, Somerset, fell recently and sustained serious injuries of the head.——Dr. John I. Metts, Ossian, had a cerebral hemorrhage September 27, and is in a critical condition.——Dr. John D. Nichols, Indianapolis, has been elected supreme medical examiner of the Knights and Ladies of Honor.

August Mortality.—During August there were 3,164 deaths reported, equivalent to an annual mortality of 13.6 per 1,000. Of these, 575, or 19.2 per cent. of the total, were under 1 year of age, and 838, or 28 per cent. of the total, were 65 years old or over. The central section of the state shows the highest death rate for the month, and also shows the highest rate from smallpox, pneumonia, cancer, and violence; the southern section of the state shows the highest death rate from typhoid fever, diphtheria, and whooping cough.

KENTUCKY

Personal.—Dr. John Edwin Hayes, Louisville, is recovering from an operation for appendicitis, performed at St. Joseph's Infirmary, October 3.——Dr. Roland H. C. Rhea, Morganfield, announces his retirement from practice October 1.——Dr. John A. Lewis, Georgetown, who has been confined to the house for several weeks on account of a fall, is convalescent.

Antituberculosis Society Organized.—The Kentucky Association for the Prevention and Relief of Tuberculosis was organized at Lexington, September 28, and the following officers were elected: President, C. L. Adler, *Lexington;* vice-*presidents, Mrs. Desha Breckenridge,* Lexington; D. H. Kellar, Frankfort; Mrs. Charles Dallam, Henderson; E. T. Frank, Owensboro; and Mrs. Benjamin L. Banks, Richmond; directors, Bernard Flexner, Louisville; Dr. George P. Sprague, Lexington; James A. Scott, Frankfort; Miss Harriet Anderson, Louisville; Mrs. Lafon Riker, Harrodsburg; Dr. Dunning S. Wilson, Louisville; Dr. William R. Thompson, Mount Sterling; Dr. Jacob Glahn, Owensboro; and Thomas Johnson, Lexington.

LOUISIANA

Quarantine Site Acquired.—The United States Government has accepted the proposition of the State Board of Health and the governor for transfer of the quarantine property, embracing about 1,500 acres of land with improvements, to the federal government, for a consideration of $100,000. An annex and hospital quarters will be built at the quarantine station and better facilities will also be provided for the inspectors.

State Board Matters.—At the special session of the State Board of Health, October 14, it was decided to recall Dr. Joseph A. Estopinal from Havana and to assign him as assistant to Dr. Sidney G. Porter, state medical inspector.——Dr. Porter announces that he will inaugurate a campaign for the eradication of spitting in places of amusement, in railway stations, on floors, platforms or any other place around railway stations, street cars, public buildings, stores, sidewalks or street crossings.——The chairman of the finance committee reported a balance on hand of more than $10,000.——On motion of Dr. Leadbetter, $600 a year was appropriated for a monthly bulletin or journal to be under the auspices of the board, and to be sent to every physician and health officer in the state.——The board endorsed the resolutions of the Orleans Parish Medical Association, eliminating the word "allopath" and substituting therefor "regular physician."——The board passed strong resolutions denouncing as false and acrimonious certain statements made by Dr. Aristides Agramonte, Havana, relating to yellow fever and sanitary conditions in the State of Louisiana and City of New Orleans.

MARYLAND

Pure Food Argument.—Dr. Nathan R. Garter addressed the Confederated Civic Improvement and Protective associations of Baltimore county at Catonsville, October 18, and advocated a stronger pure food law. The main defects in the Maryland laws are that they are not definite and the appropriation for their execution has never been increased since their original passage. Consequently Maryland has become the dumping-ground for inferior and unwholesome foodstuffs.

The Tuberculosis Conflict.—At the annual meeting, October 22, of the Social Service League of Montgomery county, organized about a year ago to combat tuberculosis and to provide care and treatment for the poor of the county afflicted with the disease, Dr. William L. Lewis, Kensington, was elected president, and Drs. Horace B. Haddox, Gaithersburg, William T. Pratt, Rockville, and George M. Boyer, New Windsor, were elected directors.

Baltimore

University Medical Association.—At the annual meeting of the University of Maryland Medical Association, October 19, Dr. John T. O'Mara was elected president; Dr. Charles W. McElfresh, vice-president, and Dr. Salvatore DeMarco, secretary.

Gets Head Nurse from Baltimore.—Miss Nancy P. Ellicott, who has done noteworthy work in connection with the medical research department of Johns Hopkins University, has been appointed superintendent of the new Rockefeller Hospital now in course of construction in connection with the Rockefeller Institution for Medical Research, New York City.

Plea for Hospital.—Dr. William H. Welch made a strong plea before the board of estimates for the appropriation asked for by Health Commissioner Bosley for the Sydenham Hospital for Contagious Diseases. He asked for $30,000 to be used in the construction of another hospital ward building, also an amount sufficient for a wing for the administration building, and $3,000 to build a road to the hospital. He believes that there should be coordination between the Tuberculosis Hospital, Sydenham Hospital, and the City Hospital, and that a single heating and lighting plant should be sufficient for the three. He attributes the diminution of diphtheria in the city and the recent *stamping out* of an outbreak of the disease at Kelso Children's Home to the effectiveness of Sydenham Hospital.

MICHIGAN

Change in Medical Course.—In the opening of the medical course of the University of Michigan, a change is made from a four to a six-years course in this department. Heretofore the six-years course has been optional, but from this time on it is made obligatory.

Gift to Sanitarium.—The bequest left to Battle Creek Sanitarium by Charles E. Wood, a former patient, consists of stocks, bonds and real estate, which are expected to realize more than $500,000. This will be expended, in part at least, in the founding of a memorial sanitarium at Atlantic City, N. J.

MINNESOTA

Aid for Cripples.—The University of Minnesota Dispensary has established a department of orthopedic surgery, which was opened September 27. An obstetric department is also to be maintained by the dispensary.

Fight Tuberculosis.—Mayor Lawler of St. Paul has pledged the members of the council to place on the budget for next year any reasonable amount asked for by the antituberculosis committee for its hospital. He also announces his willingness to vote for an appropriation of $50,000 next year for a hospital.——The Antituberculosis Hospital near Bass Lake, which will accommodate twenty patients, is now almost completed.——The capacity of the State Sanatorium for Consumptives, Walker, will be more than doubled before the end of the year by the completion of six cottages, erected at a cost of $10,000. Two of the cottages will have accommodation for sixteen, and the other four for eight patients each.——The commissioners of Ramsey county have passed the 1910 budget, which includes an additional appropriation of $50,000 to the hospital fund for the care of tuberculosis patients.

MISSOURI

Personal.—Dr. Edwin H. Schorer, assistant professor of parasitology and hygiene in the University of Missouri, Columbia, has resigned to accept the appointment of professor of bacteriology and pathology in the University of Kansas, Lawrence.——Dr. W. A. Nixon, Kansas City, has returned after a stay of more than a year in North Labrador, where he has been investigating the health conditions of the Eskimos.

Dispensaries Opened.—A free tuberculosis dispensary was opened in the Associated Charities Building, Kansas City, September 22. In addition to instructions and advice in the proper methods of care for themselves, Dr. Charles B. Irwin of the health department has provided each patient with cuspidor, pocket flask, and porch cup.——The new tuberculosis pavilion on the grounds of the old Kansas City General Hospital, was presented to the city October 16, by the Jackson County Society for the Relief and Prevention of Tuberculosis. The pavilion was built at the personal expense of William Volker, and will accommodate fifteen patients. Dr. John G. Hayden is physician-in-charge.——The Kansas City Postgraduate Medical College has established a free clinic for nervous diseases every Tuesday, Thursday and Saturday morning.

St. Louis

To Aid Baptist Sanitarium.—Mr. A. D. Brown has given $100,000 to the building fund for the Missouri Baptist's Sanitarium, contingent on the raising of $50,000 additional.

Staff Election.—The consulting staff of St. Louis Maternity Hospital, at its annual meeting, October 8, elected Dr. Frank Hinchey, president; Dr. William H. Stauffer, vice-president; and Dr. Davis Forster, secretary.

NEW JERSEY

Personal.—Dr. and Mrs. Edmund L. B. Godfrey, Camden, will spend the winter in southern California.——Dr. Charles M. Gray has resigned as a member of the Vineland Borough Board of Health.——Drs. John W. Reid, Eugene H. Goldberg, Alfred A. Muller, Walter R. Reick, Morris W. Clouse and Widner A. Doremus have been appointed medical inspectors of schools of Kearny.——Dr. Meyer J. Jedel, Newark, has been appointed physician for the tenth district, vice Dr. William P. Lamb, Newark, resigned.

New Jersey Joins Tuberculosis Crusade.—At a meeting, October 21, in the Taylor Opera-House, presided over by Governor Fort, New Jersey began a crusade to fix the responsibility for the spread of tuberculosis in her borders and to find a correct method for *stamping* it out in the commonwealth. Dr. William H. Welch, Philadelphia, spoke on the general subject of tuberculosis, and Dr. Henry B. Favill, Chicago, discussed the question, "On What Ground May the States Assume the Direction of Public Health." Homer Folks, secretary of the New York State Charities Aid Association, spoke on the "Value of Hospitals," and the other speakers were Dr. Richard Cabot, of Boston; Dr. William A. Evans, of Chicago; Senator Thomas Frelinghuysen, of New Jersey; and Senator Ernest Ackerman, of Union county. Last winter the legislature appropriated $1,500 for lectures and public meetings by experts in the treatment of this dread disease.——The Soho section of Belleville has been selected as the site for the proposed Essex County Tuberculosis Sanatorium.

NEW YORK

Personal.—Dr. Matthew R. Carson, Canandaigua, was honored by his fellow-members of the Ontario County Medical Society, October 12, at the annual meeting in celebration of the completion of his half-century of membership. Dr. Albert Vanderveer, Albany, was the guest of honor, and gave an address on the history of surgery.——Dr. Robert King, Ogdensburg, has been appointed junior assistant physician of the St. Lawrence State Hospital.

Will Help in Tuberculosis Fight.—Benjamin B. Odell, Jr., has filed a certificate of incorporation of the Newburgh Tuberculosis Sanatorium and Camp, which he intends to establish at a personal expense of $75,000, for the cure and systematic treatment of tuberculosis. This application will probably be granted without the customary hearing, as the State Board of Charities recognized the great usefulness of such an institution.——At a meeting, held October 12, in Dundee, an auxiliary organization of the State Charities Aid Association was organized, having for its objects adequate hospital care for advanced cases of tuberculosis; laboratory facilities in the county for the examination of tuberculous sputum; the aftercare of recorded or arrested cases; enforcement of the law requiring the report of cases of tuberculosis to the health officer; the relief of families of patients taking treatment; and the adoption of local sanitary regulations regarding incipient cases of tuberculosis.

New York City

The Herter Lectures.—The Herter Lectures at the University and Bellevue Hospital Medical College will be given this year by Prof. Dr. Otto Cohnheim of the University of Heidelberg on "Enzymes and Their Action." The lectures begin December 6 at 4 p. m. and continue daily throughout the week. Those interested are cordially invited to attend.

To Check Tuberculosis.—The board of estimates and apportionment has been requested by the representatives of various charitable, medical and civic organizations to urge an increase of $487,250 in the budget of the city, for the prevention and cure of tuberculosis, distributed as follows: Health, $372,660; education, $22,140; Bellevue and allied hospitals, $17,460; and charities, $75,000. The board has agreed to include an appropriation of $110,000 in the budget for 1910.

Mask for Street Sweepers.—A new sanitary mask to cover the lower part of the face with a gauze-like cover for the mouth and nostrils has been adopted by the department of street cleaning for the sweepers. It is exceedingly light and does not annoy the man who wears it, while it effectually prevents the breathing of germ-laden dust. The sweepers have always been more subject to infectious diseases than any other class of men in the department, the efficiency of the force being lessened by the number of days off that they are forced to take owing to illness, contracted undoubtedly in the course of their work. Consequently the matter is one of departmental economy as well as of plain humanity.

Graduate Course.—Columbia University, College of Physicians and Surgeons, announces a graduate course, consisting of thirty laboratory demonstrations in the departments of physiology, pharmacology and bacteriology. The demonstrations will be held on Tuesdays, Thursdays and Saturdays from 3 to 5 p. m., during the months of November and December, and the first part of January. The course is intended to offer to physicians an opportunity to see demonstrated the more important and practical of the experiments of modern medical research, and thus to come into critical touch with the newer laboratory methods as applied at the bedside in both medicine and surgery. Further information may be obtained from Mr. E. K. Hayt, assistant registrar, 437 West Fifty-ninth street.

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State Sanatorium Opens.—The new State Sanatorium for Tuberculosis near Mount Vernon, was formally opened, October 27, when the keys were turned over to the trustees by the governor. The principal address was delivered by Dr. William C. White, medical director of the Anti-Tuberculosis League of Pittsburg, Pa., on "Centralization in Tuberculosis Work." Patients were received beginning November 1. The institution has at present accommodation for fifty patients, and this will be increased as construction work under way and planned progresses. Patients who are able will be required to pay about $5 a week, and those who are able to work will be allowed to support themselves. Dr. Clayton B. Conwell, Cincinnati, is superintendent of the institution.——A Tri-County Tuberculosis Hospital is to be built by the commissioners of Lorain, Erie and Huron counties.

Physician in Every School.—A bill has been prepared and approved by the state board, to be presented to the next session of the legislature, which has for its ultimate purpose the stationing of a physician in every school who will be as much a part of the makeup of the school system as is the principal and teachers. The law contemplates the examination of each child in the public schools by the teacher for sight, hearing and breathing. It further provides that the board of education of each city shall, and of each village and township may, appoint one or more physicians, to whom shall be referred every pupil returning to school after having been absent because of sickness, and every child who shows signs of ill-health or appears to be suffering from a communicable disease. The school physician shall also give lectures and instructions to teachers on hygiene and the recognition of communicable diseases.

Cincinnati

New Cottage at Fresh Air Farm.—The Fresh Air Fund has received $2,000 from Miss Mary Hanna, with which to build a cottage for convalescents at the Fresh Air Farm, Terrace Park.

Attempt to Coordinate Antituberculosis Associations.—The following physicians have been appointed to attempt to correlate and coordinate the different institutions and associations that are waging a fight against tuberculosis in the city: Drs. George A. Fackler, Otto P. Geier, Aka B. Isham, David I. Wolfstein and William E. Kiely.

Alumni Meet.—The local chapter of the Alumni Association of Miami Medical College met October 1, and elected the following officers: President, Dr. Franklin H. Lamb; vice-presidents, Drs. Arthur L. Knight, William C. Harris, William C. Schmidter, and Raymond E. Gaston; secretary, Dr. William C. Herman; and treasurer, Dr. Browerman. Dr. B. Merrill Ricketts read a paper on the "Sterilization of Criminals."

PENNSYLVANIA

Board of Health Resigns.—At the meeting of the Board of Health of Lewistown, October 26, the members of the board resigned. This action was taken, it is said, because councils ignored the recommendations of the board looking to the health of the public.

Post-Graduate Club Election.—The Post-Graduate Medical Club of Franklin at its annual meeting, October 14, elected Dr. John B. Glenn, president; Dr. John R. Borland, vice-president; Dr. Charles H. Brown, secretary; Dr. Thomas A. Irwin, assistant secretary, and Dr. Louis E. McBride, treasurer.

Personal.—Dr. Charles E. Ziegler has been appointed professor of obstetrics in the University of Pittsburg.——S. P. Light, Lebanon, has been appointed by the governor trustee of the State Asylum for the Chronic Insane, Wernersville, vice J. B. Kremer, resigned.——Dr. F. R. McGrew, Carnegie, was seriously injured in a collision between his automobile and a Pennsylvania train, October 28.

Philadelphia

Transactions Free.—An announcement has been made that physicians can obtain copies of the bound proceedings of the Philadelphia County Medical Society, without cost, by applying at once to the janitor of the College of Physicians at the old building, Locust and Thirteenth streets.

Memorial to Dr. Huger.—On November 4, Dr. John Doran presented a bronze medallion to the Medical School of the University of Pennsylvania to commemorate the attempt of Dr. Francis Kinloch Huger to rescue Marquis de Lafayette from the fortress of Almretz. Dr. Huger graduated from the university in 1797.

College of Physicians.—Many eminent men have accepted invitations to the dedicatory exercises of the new building of the College of Physicians to be held November 10. The committee of arrangements is composed of Drs. Charles H. Frazier, George E. de Schweinitz, James Tyson, Thomas M. Tyson and George W. Norris. Mr. Andrew Carnegie, who contributed $100,000 toward the erection of the new building, will be the guest of the college. Many national and local societies have chosen delegates to represent them at the dedication.

Free Medical Libraries.—At the business meeting on October 20, of the Philadelphia County Medical Society, a special committee was named to investigate the practicability of the county society placing in certain branches of the Free Library of Philadelphia periodicals and medical books for the use of physicians in general. The committee consists of Dr. James M. Anders, chairman, and Drs. Henry Leffmann, Abram B. Hirsh, Albert M. Eaton, Herman B. Allyn, Edward E. Montgomery, and Frances R. Packard, and is expected to report to the society in January.

Building for Doctors.—Plans are being prepared for the construction of a twelve-story physicians' office building, to be located in the center of the city. The building is to be operated on the cooperative plan. The suites of offices will have from two to six rooms. The estimated cost of construction is $500,000. The plans provide for a brick, stone and terracotta building of hospital construction, thoroughly fireproof, with a frontage of 100 feet and a depth of 130 feet. Two hundred offices will be arranged for the exclusive use of physicians, dentists and the allied professions. The upper floor will contain a large auditorium for society meetings and entertainments, and the ground floor will be occupied by a drugstore and other stores.

Care of Babies.—A crusade to teach poor mothers how to feed their infants has been launched by the Philadelphia Alliance for the Care of Babies, which will hold free lectures and clinics in the public schools next winter. The alliance, which is under the auspices of the Department of Health and Charity, the public schools, the Mothers' Congress and the League of Home and School Associations, has been divided into ward committees, and besides holding public meetings will carry its work into the homes. Members will be furnished with the birth records of their districts, and will call on mothers and give them personal instruction in the care of their children. The evils of bottle feeding will be explained and attention will be called to the enormous percentage of deaths among artificially-fed children. The alliance has procured the cooperation of physicians of the city who will give talks on child hygiene in the schoolhouses.

GENERAL NEWS AND COMMENT

Decrease in Tuberculosis.—Cressy L. Wilbur, chief statistician of the division of vital statistics of the United States Census Bureau, in a bulletin issued October 21, reports a decrease in the deaths from tuberculosis for 1908. The rate in 1907 was 183.6 per 100,000 population and in 1908, 173.9 per 100,000.

New England Jefferson Graduates Organize.—Graduates of Jefferson Medical College living in New England met September 29 at Springfield and organized the Springfield Branch of the New England Association of Jefferson Graduates and elected Dr. Albert R. Rice, president; Dr. Robert P. M. Ames, secretary; Dr. William G. Craig, financial secretary, and Dr. Payson J. Flagg, treasurer.

Work for Public Health.—The American Public Health Association, at its thirty-seventh annual meeting held in Richmond, Va., October 19-22, elected the following officers: President, Dr. Charles O. Probst, Columbus, Ohio; vice-presidents, Drs. Charles A. Hodgetts, Toronto, Ont., Ernest C. Levy, Richmond, Va., and Frederico Torralbas, Havana, Cuba; secretary, Dr. William C. Woodward, Washington, D. C.; treasurer, Dr. Frank W. Wright, New Haven, Conn.; and executive committee, Drs. Eugene Buehler, Indianapolis, Marshall L. Price and Cressy L. Wilbur, Washington, D. C. It was decided to hold the next annual meeting in Milwaukee.

Boston to Have International Laryngology Congress.—The permanent international committee representing the laryngologists and rhinologists of the world has decided to organize the third international congress for laryngology and rhinology to convene during the same week and at the same place as the international congress for otology, either a few days before or after the latter. These congresses are to be held during the intervals between the international medical congresses; the designation of time and place is left to the otologists. Boston has been selected for the next gathering. Only one subject will be appointed for discussion at each sitting, with addresses on it by two speakers.

Meeting of Southern Physicians.—The annual meeting of the Southern Medical Association, whose territory includes were Dr. Richard Cabot, of Boston; Dr. William A. Evans, of Chicago; Senator Thomas Frelinghuysen, of New Jersey; and Senator Ernest Ackerman, of Union county. Last winter the legislature appropriated $1,500 for lectures and public meetings by experts in the treatment of this dread disease.——The Soho section of Belleville has been selected as the site for the proposed Essex County Tuberculosis Sanatorium.

NEW YORK

Personal.—Dr. Matthew R. Carson, Canandaigua, was honored by his fellow-members of the Ontario County Medical Society, October 12, at the annual meeting in celebration of the completion of his half-century of membership. Dr. Albert Vanderveer, Albany, was the guest of honor, and gave an address on the history of surgery.——Dr. Robert King, Ogdensburg, has been appointed junior assistant physician of the St. Lawrence State Hospital.

Will Help in Tuberculosis Fight.—Benjamin B. Odell, Jr., has filed a certificate of incorporation of the Newburgh Tuberculosis Sanatorium and Camp, which he intends to establish at a personal expense of $75,000, for the cure and systematic treatment of tuberculosis. This application will probably be granted without the customary hearing, as the State Board of Charities recognized the great usefulness of such an institution.——At a meeting, held October 12, in Dundee, an auxiliary organization of the State Charities Aid Association was organized, having for its objects adequate hospital care for advanced cases of tuberculosis; laboratory facilities in the county for the examination of tuberculous sputum; the after-care of recorded or arrested cases; enforcement of the law requiring the report of cases of tuberculosis to the health officer; the relief of families of patients taking treatment; and the adoption of local sanitary regulations regarding incipient cases of tuberculosis.

New York City

The Herter Lectures.—The Herter Lectures at the University and Bellevue Hospital Medical College will be given this year by Prof. Dr. Otto Cohnheim of the University of Heidelberg on "Enzymes and Their Action." The lectures begin December 6 at 4 p. m. and continue daily throughout the week. Those interested are cordially invited to attend.

To Check Tuberculosis.—The board of estimates and apportionment has been requested by the representatives of various charitable, medical and civic organizations to urge an increase of $487,250 in the budget of the city, for the prevention and cure of tuberculosis, distributed as follows: Health, $372,660; education, $22,140; Bellevue and allied hospitals, $17,460; and charities, $75,000. The board has agreed to include an appropriation of $110,000 in the budget for 1910.

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Much time was devoted to the discussion of "natural sudden death" and its legal importance. Professor Haberda said that a sudden natural death really never occurred in healthy persons. The victims of sudden death during life only appear to be healthy, but they are subjects of chronic nephritis, atheroma, of ulcus ventriculi, of aneurism, without symptoms of grave disease having appeared or warned them beforehand. If death happens soon after a meal, poisoning is often suggested, and in history several times deaths of eminent men were attributed to poison, when an examination would have shown a very obvious natural cause for the sudden termination of life. The psychic factor is very important. Deaths due to fright or joy are by no means known only in fiction, as syncope is one of the most frequent causes of sudden death. A paper was read by Dr. Jürntratt on the epidemic of poliomyelitis in Austria. The first cases were noticed in 1908 in Vienna, whence the disease spread to the other provinces of the empire. Most of the affected children were between 2 and 5 years old; the mortality was 12 per cent. In no instance could the schools be held responsible for an outbreak; the frequency of the disease diminished constantly after September, 1908, although the schools were then opened after the summer vacancy. Nevertheless, transmission by contact has been proved without a doubt. One of the most important results of the congress is the decision to institute regular classes of postgraduate study in legal medicine for the *Amtsärzte*. This branch of the duties of a health officer is so important that it deserves strictest attention.

Reforms Demanded by Hospital Staff

Once more the unsatisfactory remuneration and requirements of the members of the hospital staffs have been made the subject of controversy between the organization of medical men and the managing boards of the government hospitals. About a year ago certain reforms of the present system were demanded by the doctors, and a special committee was empowered by the government authorities to promise all reforms. As yet the promises have not been fulfilled. Therefore the union of hospital staff doctors has informed the managers of the hospitals that unless the grievances are set right by November 1, all members of the union, composing about 80 per cent. of all the house physicians and nearly all the juniors of the hospitals, will give notice on that day. This would mean a standstill of all hospital and charitable work except at the clinics, for the directors and assistants alone cannot deal with the amount of work that would be on their hands. The chief demands are: Clear division of rights and duties between medical staff and administrative staff; free board and lodging; minimum salary of $30 a month; insurance against accidents and against claims of damages by patients while employed in hospital; choice of positions; an annual vacation of four weeks on full pay. The controversy has aroused much comment on the part of the press and public, and sympathy rests with the doctors, who are fighting for conditions long ago gained in many branches of common life.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 14, 1909.

Personals

Professor Salkowski, the distinguished physiologic chemist and director of the chemical department in the pathologic institute here, has been appointed an honorary professor. This title is a distinction that is accorded in Prussia to professors of unusual worth.

In the daily and medical press the announcement was made that Prof. v. Pirquet, formerly privat-docent in Vienna, and now in Baltimore, would be called to Breslau as the successor of Professor Czerny, who as previously announced has assumed charge of the clinic for children in Strasburg. This statement is incorrect; neither the faculty nor the educational department has as yet taken up the question of the successor of Czerny.

Consultants and Practitioners

Practicing physicians have frequently had the unpleasant experience that patients whom they have sent to a specialist for a single treatment or for diagnosis were retained by the consultant for further advice without the knowledge of the family physician so that the practitioners were deprived of their patients. It is to be hoped that an end has been put to this abuse by a recent decree of the Prussian medical Court of Honor. The court has decided that a physician called as a consultant shall not undertake the independent treatment of a patient, unless in exceptional circumstances, without the consent of the attending physician.

Women Medical Assistants in the Municipal Hospitals

Women physicians are slowly gaining ground among us. At a recent meeting of the council it was decided to install female medical assistants in the municipal hospitals, beginning with the Moabit and Urban.

The Epidemic of Infantile Spinal Paralysis

The epidemic of acute infantile paralysis in Westphalia, the appearance of which I have already reported, has reached a remarkable extent. Professor Krause, the director of the medical policlinic in Bonn, who was sent to Hagen to investigate the disease, has made a report to the department of education a few days ago. From this report, which will soon be published in the *Deutsche medizinische Wochenschrift* I can give you to-day the following interesting facts. The entire number of deaths among 436 cases of the Province of Arnsberg numbered 66, the youngest child attacked was 4½ weeks old, the oldest 15 years. Most cases occurred in the second year of life. The female sex was somewhat more affected than the male. In over 90 per cent. of the cases symptoms referable to the stomach and intestines were noted at the beginning of the disease, and in two-thirds of the cases the children were attacked with severe diarrhea, rarely with vomiting, while in one-third constipation was present. In many cases there was at the same time a gastrointestinal catarrh affecting other members of the family; in one case seven members of the family suffered at the same time from diarrhea. As to paralyses, the limbs were affected as to frequency in the following order: one leg or single groups of muscles, one arm, both legs, one-half of the face, both legs and one arm, and lastly paralyses of the bladder, which occurred only with coincident paralysis of both legs. In severe cases there were also respiratory symptoms. In the fatal cases respiratory paralysis seems to occur regularly. The sensorium was with few exceptions entirely free even at the height of the disease. A number of cases of sudden death with disturbance of breathing shortly before the fatal end are referred to acute infantile paralysis. The paralyses were uniformly completely flaccid. The tendon reflexes were abolished, the skin reflexes for the most part fully retained. Corresponding to the clinical findings there was discovered in eight of the nine cases submitted to autopsy, a severe enteritis. The mesenteric glands were also swollen and enlarged and there was a splenic tumor. Reports of the histologic investigation of the central nervous system are not yet available. Krause distinctly advocates the infectious character of infantile paralysis. The occurrence of groups of cases was plainly established. It is certain that in many cases also a communication of the disease by healthy infection carriers can be demonstrated. The gastrointestinal tract is in all probability the portal of entry. The particular method of infection has not yet been determined. In Westphalia, as some years ago in Sweden, a remarkable mortality of chickens was established. Bacteriologic examinations have so far led to no definite results. Pathogenic germs especially have not been demonstrated. Attempts to infect mice, guinea-pigs, pigeons, chickens have for the present led to no result. Experiments with apes are not yet concluded. In several cases, however, by subdural, intravenous and intraperitoneal inoculation of material from cases of infantile paralysis into rabbits it has been possible to bring about the death of the animal with pronounced symptoms of affection of the central nervous system. The investigations will of course be continued. Therapeutically, Professor Krause recommends the isolation of the patients in the acute febrile stage. Calomel or castor oil is to be prescribed for the gastrointestinal symptoms. He frequently observed a rapid regression of the paralyses after lumbar puncture. The usual treatment is to be adopted in convalescence.

Change of Diet in Municipal Hospitals

The frequent cases of food poisoning which have occurred in the Rudolph Virchow Hospital in previous years have now led to an alteration of the dietetic regulations for the

the states of Tennessee, Alabama, Georgia, Florida, Louisiana and Mississippi, will be held in New Orleans November 9-11, under the presidency of Dr. Giles C. Savage, Nashville, Tenn. The work of the association is divided into sections on medicine, surgery and ophthalmology, presided over, respectively, by Drs. John A. Witherspoon, Nashville, Tenn.; Francis G. DuBose, Selma, Ala., and Alexander W. Stirling, Atlanta, Ga. Dr. Edward M. Hummell, New Orleans, is chairman of the entertainment committee. The general meetings will be held in Hutchinson Memorial Hall, where the president's address and the annual oration by Dr. Isadore Dyer, dean of Tulane University Medical Department, will be delivered. The headquarters of the association will be Hotel Grunewald. Membership in a component medical society or association in any of the states mentioned and South Carolina or Kentucky, entitles to full membership in the association, on payment of the annual dues of $2.

Railway Surgeons Meet.—The third annual convention of the Association of Surgeons of the Chicago, Burlington and Quincy Railroad was held in Kansas City, Mo., October 14. The following officers were elected: President, Dr. Byron B. Davis, Omaha; vice-presidents, Drs. Charles E. Cook, Mendota, Ill., John M. Allen, Liberty, Mo., and John W. Freeman, Lead, S. D.; secretary, Dr. George F. Roehrig, Denver, and treasurer, Dr. John P. Savage, Sioux City, Iowa. The next year's meeting will be held in St. Paul.——At the eighteenth annual meeting of the Erie Railroad Surgeons' Association, held in New York City, October 7, Dr. Charles E. Sawyer, Marion, Ohio, was elected president.——The New York and New England Association of Railway Surgeons will hold its nineteenth annual meeting at the New York Academy of Medicine, 17 West Forty-third street, November 16 and 17, under the presidency of Dr. Jonathan M. Wainwright, Scranton, Pa. The symposium will be on "Causes of Railway Accidents Individualized," taking up construction, maintenance, operation, medicolegal features, injuries of the head and spine, and medical and surgical end-results and accidents. On the afternoon of the second day, a clinic is to be given the association at the Presbyterian Hospital by Dr. Joseph A. Blake.

FOREIGN

Acute Poliomyelitis in Germany.—This epidemic, which has been referred to by our Berlin correspondent in this and previous issues, is the first actual epidemic of the kind in Germany. It affects the northwestern province of Prussia, bordering on the Netherlands. Steiermark is also involved, a number of cases having occurred at Graz. A total of 450 cases, with 70 deaths, were reported up to the middle of October. G. Vieten of Hagen, the center of the epidemic, in Westphalia, describes the symptomatology, course, treatment and prophylaxis of the disease in the *Zeitschrift für aerztliche Fortbildung*, October 15, page 633, urging the necessity for compulsory notification of cases of the disease. This will permit isolation and disinfection, and by study of the cases in the hospitals it may be possible to discover the causal agent and means for effectual treatment. He also urges the necessity for legal regulations compelling the parents to permit autopsy in the fatal cases as the only means to obtain better insight into the processes of the disease.

LONDON LETTER

(From Our Regular Correspondent)

London, Oct. 23, 1909.

Relation of Scarlet Fever to Disease of Cows' Udder

The health committee of the London County Council has concluded an important inquiry into the causation of an outbreak of scarlet fever. The epidemic occurred last June and affected 400 persons in London and Surrey who had consumed milk supplied by a particular dairy company. The fact that scarlet fever may be milk-borne is now well recognized, and to account for this two hypotheses have been put forward—either that the milk is infected by persons who have recently suffered from scarlet fever coming in contact with it, or it is infected by some condition of the cows. In several outbreaks infection from the former source was excluded, thus supporting the latter hypothesis. In 1882 the eminent hygienist. Sir William Power, investigated an outbreak which occurred in London, and suggested that as in the human female there is a connection between scarlatina and accidents of the puerperium, a similar connection might exist between the disease and some condition in cows which had recently calved. In 1895 he advanced his hypothesis a step farther when investigating the origin of an outbreak of scarlet fever in persons who had consumed milk from a farm at Hendon (a London suburb). The cows on this farm were found to be suffering from an eruption on the teats and udders, which has since been known as the "Hendon disease." Subsequently several outbreaks of scarlet fever have been traced to recently calved cows suffering from the "Hendon disease." In the present outbreak a minute investigation showed that the milk began to show infectious properties at the time that three recently calved cows were added to the herd. The calf of one of these cows died after being suckled for four or five days, and an eruption suggestive of the "Hendon disease" was present on the teats and udders of the cows.

Establishment of a Radium Factory in London

Lady Ramsay, the wife of the great scientist, Sir William Ramsay, has performed the ceremony of laying the foundation stone of a radium and uranium works of the British Radium Corporation which is to be built at Limehouse to treat pitchblende ore extracted from a Cornish mine. Sir William Ramsay delivered an interesting address, in which he traced the history of radium from the experiments of Becquerel and the Curies. A great difficulty to the therapeutic use of radium is its cost, which has increased since its discovery. At first it could be bought for $1.50 per milligram, now the price is $3.50. Sir William has discovered a process by which the time taken to extract radium from its ore will be considerably shortened—from some months to as many weeks. It is hoped that this will increase the present infinitesimal supply and bring radium within the reach of many physicians who would be glad to try it.

Education of the Medical Student

As has been stated in previous letters, the continual progress of medicine and its ancillary sciences is making greater and greater demands on the medical student, and the problem of his satisfactory education is becoming more and more difficult. In his presidential address delivered to the Medical Society of London, on "The Relation of Medicine to the Ancillary Sciences," Dr. Samuel West, physician to and lecturer at St. Bartholomew's Hospital, made some important pronouncements on the point. His great experience as a teacher and examiner has led him to the conclusion that the five years' curriculum (a comparatively recent extension of the older four years) is too short. With so much to do and so little time in which to do it, the medical teaching of the present day was an organized system of cramming. So much time was spent in preparing the student to be a physician that there was little or none left to make him one. In other words, so much time was spent on preliminaries that practical clinical work was scamped. As an examiner of different licensing bodies for many years, he had come to the conclusion that the general standard of practical work in the final examination had been steadily and progressively failing. If each student could add to his curriculum a year of residence in a hospital as a house-officer without an examination to work for, he would obtain what was lacking. Under the present system, instead of gaining practical experience in, the wards while they were students, when mistakes did no harm and could be corrected, they had to gain experience later in practice where mistakes were serious to themselves and to their patients. The remedy was to cut down the curriculum until the work required was not more than could be accomplished by the average man in the time allotted.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Oct. 17, 1909.

Congress of Medical Officers of Public Health

The first congress of medical officers of the government was held here on October 15 and 16. There were about 600 persons present. The chief object of the congress was *to fix a* certain scale of remuneration for public health work. Naturally, also, scientific research was made the object of the transactions. The influence of the *Amtsärzte*, as the public health officers are called here, may be estimated if it is stated that the directors of all hospitals, the chiefs of all serum institutes, the medical inspectors of schools, all being appointed by the state, are *Amtsärzte*. Apart from the more sociologic papers read at the convention, there were some papers of more general medical interest. Thus Dr. von Kutschera spoke on the "Epidemiology of Cretinism." He has made the surprising observation that cretinism can be propagated by contact. He has examined the whole family of each subject studied, and in each case he was able to demonstrate personal contact between any two or more cases in a family. The paper was much commented on and discussed. Prof. Wagner von Jauregg, who has perhaps the greatest experience with cretinism and goiter in Europe, admitted the possibility of the explanation offered by the author. The congress resolved to institute exact researches into the possible contagiousness of exophthalmic goiter or any other forms of hypothyroidism and hyperthyroidism. The new Austrian bill on epidemic diseases was discussed by the congress. A special sanitation program for communities was approved by the majority and forwarded to the government; other recommendations fixed the payment of compensations to persons who were prevented by quarantine from earning their living. The exclusion of compulsory notification of measles, puerperal fever and varicella from the list of notifiable diseases was disapproved.

Much time was devoted to the discussion of "natural sudden death" and its legal importance. Professor Haberda said that a sudden natural death really never occurred in healthy persons. The victims of sudden death during life only appear to be healthy, but they are subjects of chronic nephritis, atheroma, of ulcus ventriculi, of aneurism, without symptoms of grave disease having appeared or warned them beforehand. If death happens soon after a meal, poisoning is often suggested, and in history several times deaths of eminent men were attributed to poison, when an examination would have shown a very obvious natural cause for the sudden termination of life. The psychic factor is very important. Deaths due to fright or joy are by no means known only in fiction, as syncope is one of the most frequent causes of sudden death. A paper was read by Dr. Jürntratt on the epidemic of poliomyelitis in Austria. The first cases were noticed in 1908 in Vienna, whence the disease spread to the other provinces of the empire. Most of the affected children were between 2 and 5 years old; the mortality was 12 per cent. In no instance could the schools be held responsible for an outbreak; the frequency of the disease diminished constantly after September, 1908, although the schools were then opened after the summer vacancy. Nevertheless, transmission by contact has been proved without a doubt. One of the most important results of the congress is the decision to institute regular classes of postgraduate study in legal medicine for the *Amtsärzte*. This branch of the duties of a health officer is so important that it deserves strictest attention.

Reforms Demanded by Hospital Staff

Once more the unsatisfactory remuneration and requirements of the members of the hospital staffs have been made the subject of controversy between the organization of medical men and the managing boards of the government hospitals. About a year ago certain reforms of the present system were demanded by the doctors, and a special committee was empowered by the government authorities to promise all reforms. As yet the promises have not been fulfilled. Therefore the union of hospital staff doctors has informed the managers of the hospitals that unless the grievances are set right by November 1, all members of the union, composing about 80 per cent. of all the house physicians and nearly all the juniors of the hospitals, will give notice on that day. This would mean a standstill of all hospital and charitable work except at the clinics, for the directors and assistants alone cannot deal with the amount of work that would be on their hands. The chief demands are: Clear division of rights and duties between medical staff and administrative staff; free board and lodging; minimum salary of $30 a month; insurance against accidents and against claims of damages by patients while employed in hospital; choice of positions; an annual vacation of four weeks on full pay. The controversy has aroused much comment on the part of the press and public, and sympathy rests with the doctors, who are fighting for conditions long ago gained in many branches of common life.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 14, 1909.

Personals

Professor Salkowski, the distinguished physiologic chemist and director of the chemical department in the pathologic institute here, has been appointed an honorary professor. This title is a distinction that is accorded in Prussia to professors of unusual worth.

In the daily and medical press the announcement was made that Prof. v. Pirquet, formerly privat-docent in Vienna, and now in Baltimore, would be called to Breslau as the successor of Professor Czerny, who as previously announced has assumed charge of the clinic for children in Strasburg. This statement is incorrect; neither the faculty nor the educational department has as yet taken up the question of the successor of Czerny.

Consultants and Practitioners

Practicing physicians have frequently had the unpleasant experience that patients whom they have sent to a specialist for a single treatment or for diagnosis were retained by the consultant for further advice without the knowledge of the family physician so that the practitioners were deprived of their patients. It is to be hoped that an end has been put to this abuse by a recent decree of the Prussian medical Court of Honor. The court has decided that a physician called as a consultant shall not undertake the independent treatment of a patient, unless in exceptional circumstances, without the consent of the attending physician.

Women Medical Assistants in the Municipal Hospitals

Women physicians are slowly gaining ground among us. At a recent meeting of the council it was decided to install female medical assistants in the municipal hospitals, beginning with the Moabit and Urban.

The Epidemic of Infantile Spinal Paralysis

The epidemic of acute infantile paralysis in Westphalia, the appearance of which I have already reported, has reached a remarkable extent. Professor Krause, the director of the medical policlinic in Bonn, who was sent to Hagen to investigate the disease, has made a report to the department of education a few days ago. From this report, which will soon be published in the *Deutsche medizinische Wochenschrift* I can give you to-day the following interesting facts. The entire number of deaths among 436 cases of the Province of Arnsberg numbered 66, the youngest child attacked was 4½ weeks old, the oldest 15 years. Most cases occurred in the second year of life. The female sex was somewhat more affected than the male. In over 90 per cent. of the cases symptoms referable to the stomach and intestines were noted at the beginning of the disease, and in two-thirds of the cases the children were attacked with severe diarrhea, rarely with vomiting, while in one-third constipation was present. In many cases there was at the same time a gastrointestinal catarrh affecting other members of the family; in one case seven members of the family suffered at the same time from diarrhea. As to paralyses, the limbs were affected as to frequency in the following order: one leg or single groups of muscles, one arm, both legs, one-half of the face, both legs and one arm, and lastly paralyses of the bladder, which occurred only with coincident paralysis of both legs. In severe cases there were also respiratory symptoms. In the fatal cases respiratory paralysis seems to occur regularly. The sensorium was with few exceptions entirely free even at the height of the disease. A number of cases of sudden death with disturbance of breathing shortly before the fatal end are referred to acute infantile paralysis. The paralyses were uniformly completely flaccid. The tendon reflexes were abolished, the skin reflexes for the most part fully retained. Corresponding to the clinical findings there was discovered in eight of the nine cases submitted to autopsy, a severe enteritis. The mesenteric glands were also swollen and enlarged and there was a splenic tumor. Reports of the histologic investigation of the central nervous system are not yet available. Krause distinctly advocates the infectious character of infantile paralysis. The occurrence of groups of cases was plainly established. It is certain that in many cases also a communication of the disease by healthy infection carriers can be demonstrated. The gastrointestinal tract is in all probability the portal of entry. The particular method of infection has not yet been determined. In Westphalia, as some years ago in Sweden, a remarkable mortality of chickens was established. Bacteriologic examinations have so far led to no definite results. Pathogenic germs especially have not been demonstrated. Attempts to infect mice, guinea-pigs, pigeons, chickens have for the present led to no result. Experiments with apes are not yet concluded. In several cases, however, by subdural, intravenous and intraperitoneal inoculation of material from cases of infantile paralysis into rabbits it has been possible to bring about the death of the animal with pronounced symptoms of affection of the central nervous system. The investigations will of course be continued. Therapeutically, Professor Krause recommends the isolation of the patients in the acute febrile stage. Calomel or castor oil is to be prescribed for the gastrointestinal symptoms. He frequently observed a rapid regression of the paralyses after lumbar puncture. The usual treatment is to be adopted in convalescence.

Change of Diet in Municipal Hospitals

The frequent cases of food poisoning which have occurred in the Rudolph Virchow Hospital in previous years have now led to an alteration of the dietetic regulations for the municipal hospitals and more light vegetables are to be used. Dishes of rice and meal, macaroni and the like are to be supplied in place of the large messes of potatoes. The nurses shall provide for each patient, if required, even more than a half a pound of bread per day. Instead of breakfast and afternoon coffee, cocoa, gruels and all other drinks ordered by physicians are to be furnished.

School Dental Clinic in Schöneberg

A school dental clinic will be established by the city also in Schöneberg. The city dentist draws a salary of $1,500 (6,000 marks), but has not the privilege of private practice. In addition a nurse with a yearly salary of $375 (1,500 marks) will be installed.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Oct. 4, 1909.

Hygiene in the Navy

M. Chéron, assistant secretary of the navy, has instituted in each maritime division a bureau of naval hygiene, similar to the bureaus of military hygiene of the garrisons, which will cooperate with the recently established superior commission of hygiene and epidemiology and will organize the prophylaxis of contagious diseases, study on the spot all questions of hygiene in the naval service and will establish a watch over the quality of the drinking-waters. In order to keep himself informed constantly and precisely in regard to the importance and the number of various epidemics in the naval service, M. Chéron has just decided to have the maritime prefects send him daily telegrams informing him of the following points in regard to the maritime establishments:

1. The movement of the patients (arrival, departure, death) during the foregoing twenty-four hours.
2. The number of cases of each contagious disease under treatment.

M. Chéron desires to establish a regular statistical service in regard to the morbidity and mortality of the merchant marine. Cases of contagious diseases will be immediately reported to him.

Medicine at the International Aviation Exposition

At the International Exposition of Aerial Locomotion, which opened a few days ago at the Grand Palais, there has been organized an especial section for aeronautic physiology. The Museum of Natural History has placed on exhibition series of flying animals from insects up to the birds and the flying mammals. There is also on exhibition a series of stuffed pigeons illustrating the researches of Marey on the physiology of flight among birds, and charts recording the most remarkable heights of ascension. The results of physiologic research on the influence of altitude on the physical organism are graphically shown; the influence on the hearing, on the state of the blood, etc. There are also exhibited various instruments employed for research into the physiology of altitude, notably various models of apparatus to measure arterial tension, also models of oxygen inhalers intended to prevent the serious effects of excessive reduction of the atmospheric pressure in ascents to very great heights. Among the engravings there is a collection of portraits of aeronauts who have taken part in ascensions for scientific research, including Gay-Lussac, Robertson, Green and others.

The Increase of Medical Fees

As I mentioned in one of my previous letters (The Journal, August 28, 1909, liii, 726), the question of the increase of medical fees was submitted, on the initiative of the medical society of the fourth division (*arrondissement*) of Paris, to the consideration of a mixed commission representing the various medical societies of Paris and its environs, organized under the name of the *Fédération des médecins de Paris et de la Seine.* The federation approved the increase of fees and decided to address to the political papers a communication setting forth the reasons for this increase; likewise a circular to all the physicians of Paris and the department of the Seine. The federation believes that in Paris and in the suburbs the minimum fees for working people, domestic servants and persons of small salaries and restricted means should be 4 francs for a visit at the patient's home and 3 francs for a consultation in the physician's office. For employers, merchants and persons in comfortable circumstances, the minimum fee should be 6 francs for a visit and 4 francs for an office consultation. Above these rates, fees should be regulated according to convenience and circumstances, by agreement with the patient in accordance with the means of the latter, the standing of the physician, and the importance of the services rendered. The federation has decided to ask double fees for Sunday, evening and night visits.

Not all physicians, however, approve of these measures. For instance, the *Journal des Praticiens*, edited by Dr. Huchard, has published an editorial approving the increase of medical fees by the individual action of physicians, but strongly condemning collective public action through the papers, on the ground that patients will be offended and the medical profession be made to appear mercenary and self-seeking. These conditions, moreover, will be to the special disadvantage of the younger physicians; for, whatever happens, the public will continue to rely on the older physicians, in whom people have learned to have confidence.

Principles of Medical Ethics

The general council of the component medical societies of Paris has recently adopted the following principles governing the attitude of physicians with reference to their colleagues. A physician called in during the absence of the regular family physician should continue to treat the patient only during his colleague's absence. If the patient wishes the physician who has thus been called to remain in charge of the case the latter may continue to treat the patient after having warned his colleague. A physician summoned in an emergency to treat a patient who is under the care of another physician should confine himself to prescribing what is immediately necessary, and should not return to see this patient unless called in consultation by the physician in charge of the case. A physician called in to see a patient who is being regularly treated by another physician should do his best to have the latter recalled to the case. If he fails, he should without delay notify the colleague whom he has replaced. A locum tenens should refrain from attending a patient with whom he has become acquainted only through the other physician's practice, unless he obtains the permission of the latter to do otherwise. A physician called into a consultation ought to abstain from making any criticisms in the presence of the patient or those around him. The treatment agreed on in private consultation should be carried out by the physician in charge. The consulting physician should not return to see the patient unless called in again and authorized by the physician in charge. A fraternal spirit should prompt the acceptance of the consulting physician proposed by the family, whatever his age, position or distinction or lack thereof, provided he is personally and professionally beyond reproach. The cabinet of consultation is a neutral ground.

Pharmacology

[Contribution from the Chemical Laboratory of the American Medical Association]

LABEL AND CONTENTS

Discrepancies Found in Estimating Sodium and Potassium in Pharmaceutical Mixtures

W. A. Puckner

The Council on Pharmacy and Chemistry submitted to the laboratory for examination a proprietary alkaline elixir of rhubarb which, according to the label, contained among numerous other ingredients, 20 grains of potassium bicarbonate to each fluid ounce. As a result of the laboratory analysis[1] it was reported to the Council that if all the potassium in the preparation was present in the form of the bicarbonate, the amount of potassium bicarbonate thus indicated was less than 2 grains per fluidounce instead of 20 grains as given on the label. In fact the examination seemed to show that practically all the bicarbonate was present as sodium bicarbonate, a result that the present—modified—label on the product bears out.

The explanation offered by the firm regarding the discrepancy between the statement on the labels and the facts as brought out by the laboratory analysis was as follows:

"The original formula called for potassium bicarbonate as printed on the label, but acting on the advices of a number of physician friends, we substituted sodium bicarbonate for part of potassium bicarbonate and reduced the total alkalinity about one-half. . . . In publishing the formula we went back to the original record on file in the office and the discrepancy which you have noticed is due to lack of co-ordination between the various departments."

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[1] Details of the analytical method pursued in estimating the amount of sodium and potassium in the presence of organic matter will appear in the annual report of the Chemical Laboratory of the American Medical Association.

The name of the firm putting out this preparation is not published as the label has been changed to conform with the facts. The matter is referred to for the specific purpose of calling attention to the need of some sort of control or oversight of non-official pharmaceutical products. The Council on Pharmacy and Chemistry, with the aid of the Association's laboratory, has repeatedly brought to light both the lack of uniformity of composition and the discrepancies between labels and contents that exists in many proprietary preparations; these, too, emanating from some of the more reliable firms. What the state of affairs must be in the case of those proprietaries put out by the pseudo-pharmaceutical houses which have no reputation at stake, can better be imagined than described. If the Council and the Association's laboratory have accomplished nothing more than the awakening of manufacturers to the fact that the physician demands that he shall know just what he is giving his patient, these bodies have *more than justified their reason to be.*

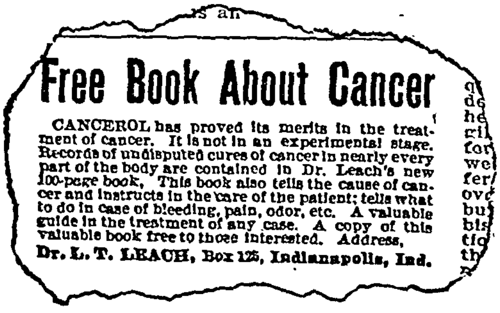
CANCEROL

Dr. L. T. Leach's Cancer Cure and His Parkview Sanatorium

In recent issues of THE JOURNAL[1] details were given of two "cancer cure" concerns that have been declared fraudulent by the post-office authorities. This week we present a third, that of Dr. L. T. Leach and his "cure," Cancerol. In giving this case, we cannot do better than to quote it at length from the memorandum which was submitted by the assistant attorney-general, Judge R. P. Goodwin, to the Postmaster-General:

> "Dr. Leach advertises as a cancer specialist. He treats patients chiefly by mail, but conducts a small sanatorium at Indianapolis, where such few patients as present themselves are cared for. About 90 per cent. are mail patients. The mail treatment costs about $25 a month and the sanatorium treatment about $150 a month.
>
> "Dr. Leach is about 35 years of age and graduated from the Medical College of Indiana in 1901. For some time after his graduation, he assisted his father-in-law, Dr. D. M. Bye, in a business similar to that under discussion, and later commenced this business of his own. This is the extent of his experience in treating cancer."

As a specimen of advertising done by Leach, we reproduce an advertisement that appeared in the *Kansas Farmer*, Nov. 21, 1907. This seems to have been the stock "copy" used by this concern in obtaining its victims. It is interesting in this connection to note that a subscriber to the *Kansas Farmer* who criticized the "medical" advertisements which that publication carried, was told by the editor, that "we will not . . . assist in any kind of a swindle."



Free Book About Cancer

CANCEROL has proved its merits in the treatment of cancer. It is not in an experimental stage. Records of undisputed cures of cancer in nearly every part of the body are contained in Dr. Leach's new 100-page book. This book also tells the cause of cancer and instructs in the care of the patient; tells what to do in case of bleeding, pain, odor, etc. A valuable guide in the treatment of any case. A copy of this valuable book free to those interested. Address,

Dr. L. T. LEACH, Box 125, Indianapolis, Ind.

CANCEROL

On his [Leach's] receipt of an inquiry, a copy of a pamphlet entitled "Facts About Cancer," a symptom-blank and a sheet containing alleged testimonials are sent to the correspondent. These matters are carefully prepared to convey the impression that Dr. Leach has discovered and offered a treatment by medication that will cure practically all cases of cancer. For example, such statements as the following are made:

> The agent which meets this requirement is Cancerol. Hundreds have been cured in this way where it would have been impossible to come to my Sanatorium. Cancerol is the mildest efficient remedy known. . . . Cancerol may be employed in most any situation of the body. Cancerol has cured many cases where all other remedies have failed.
>
> Here is one who has made a specialty of the disease and who *cures cancer.*
>
> I can cure more serious cases of cancer than anyone else, bar none.
>
> In the vast majority of cases the medical treatment which I employ, in varying strengths and combinations, will give satisfactory results when all other methods fail.
>
> I do not know that I have ever failed in a case where I had given it as my professional opinion that I could cure. . . . I have cured many of those so-called incurable and hopeless cases; pronounced so by some physicians.
>
> Nothing has ever been compounded which, in my judgment and in the judgment of other competent doctors, is as efficient as Cancerol. Where I can get cases early, not one in ten need result fatally.

"The correspondent is informed that, if he will answer the questions asked in the symptom-blank, Dr. Leach can correctly diagnose his trouble and will advise him of his condition.

"On the return of the symptom-blank, Dr. Leach continues his correspondence, pretending to report his opinion of the disease, and offering to treat the case by mail at about $25 a month."

ANALYSIS OF THE "CURE"

The medicines were analyzed by the government chemists and found to consist essentially of cottonseed oil and simple tonics. The "treatment" for cancer of the uterus consisted of:

1. "Blood Renovator." Found to be but a simple bitter, alcoholic tonic.
2. "Cancerol: Reg. U. S. Pat. Office." Consisted of cottonseed oil.
3. "Special Germ Killer and Disinfectant." A fluid similar to cresol, but which, diluted to the degree called for in the directions, possessed little, if any, germicidal power.
4. Red, sugar-coated pills, consisting essentially of sodium bicarbonate, ferrous sulphate, capsicum and glucose; in other words, a simple iron tonic.

Should the victim have an external cancer, he was sent the simple tonic, the cottonseed oil and the red pills as described above, and in addition received:

"Prescription 16": An alcoholic preparation containing opium.

"Healing Salve": Boric acid and bismuth salts in petrolatum.

"Day Oil": One-half ounce of ichthyol.

"De Vit-Ol": Caustic paste containing 34 per cent. of arsenic.

From the results of these analyses the government chemists reported as follows:

> "The above findings clearly show that there is nothing in the treatment submitted by the Post-Office Inspector to warrant any claims or representations to the effect that the treatment is capable of mitigating or effecting a cure of cancer."

CLAIMS VERSUS ADMISSIONS

"Dr. Leach at the hearing was compelled to admit that there was nothing in the treatment purchased by the inspector which could be relied on to cure a case of cancer. He contended that he had not promised to cure the case. This contention, however, is not supported by the facts. The letters and printed literature are clearly *intended* and calculated to induce the patient to purchase the treatment by the hope of a cure."

THE "CURES"

"The inspector obtained the names of persons who had paid money to this advertiser, and by *correspondence* received reports of the results of the treatment in about *forty instances.* Examination of this correspondence reveals that but seven out of the forty claimed to have been cured, and that in but 2 cases was the patient examined by a local physician who diagnosed the trouble as cancer. In eighteen other instances in which the local physician had *examined* the patient and stated that the trouble was cancer, the patients found no benefit from the *treatment.* In no case had there been a *microscopic* examination of the growth, so that it cannot be positively said that in any case the disease was a true cancer.

"The result of this correspondence is so strikingly in contrast with the advertising claims as to prove conclusively, I think, the spurious quality of the medicines that are *sold* by this advertiser as a cure for cancer, and especially in view of the findings of the analyses."

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[1] "Curry Cancer Cure," THE JOURNAL, Oct. 9, 1909; "Bye Cancer Cure," THE JOURNAL, Oct. 16, 1909. The matter that has appeared in THE JOURNAL concerning the Curry, Bye and Leach "cancer cures" has been reprinted as a pamphlet, entitled, "A Trio of Cancer Fakes;" it will be sold at four cents a copy.

After thus showing the mendacity of Leach's claims, the valuelessness of his medicines and the worthlessness of his "cures," Judge Goodwin, the assistant attorney-general, sums up the case against this man as follows:

"Dr. Leach's pretense that he can properly diagnose cases of cancer and prescribe remedies for them without personal examination merely by this correspondence scheme is without any scientific or proved foundation, and he must well know that it is mere pretense. What is undoubtedly the fact that out of the many cases submitted to him and diagnosed by him as cancer there are some which are not cancer at all, but simply non-malignant sores which in some instances yield to treatment, is what affords him a basis on the recovery of such cases to claim that he has cured cancer.

"That Dr. Leach has not succeeded where the profession has failed, and that he is not honestly endeavoring to cure his patients, but that his pretensions to have discovered a cure for this disease are false and fraudulent and asserted merely to deceive and defraud suffering humanity, is revealed by the analysis of his medicines and the finding that they are merely cottonseed oil and some ordinary tonics and caustics."

In short, it was fairly evident that Leach's business was that of using the United States mails as a means of obtaining money by fraud. This being the case, the assistant attorney-general recommended that the Postmaster-General should issue a fraud order against Leach. This was done.

RESINOL

To the Editor:—Please publish the ingredients and proportions of each, used in making Resinol.

E. E. C., Manila, P. I.

ANSWER: Resinol has not been examined in the Association's laboratory, and we are unable to obtain from other sources any detailed information regarding its composition. The Philadelphia branch of the American Pharmaceutical Association issued a pamphlet some two years ago in which the following appeared relative to this and similar products:

"Within recent years there have been introduced a number of compound ointments that in their supposed range of therapeutic usefulness are scarcely equalled and certainly not excelled by the magic unguents of the quacks and charlatans of continental Europe, who, several centuries ago, essayed to cure all manner of disease by inunction or the simple application of compound ointments of secret composition.

"As typical of this modern class of panaceas we may mention Resinol. This preparation is being widely advertised at the present time in the daily papers as a valuable adjunct to Resinol Soap in the treatment of all kinds and varieties of diseases of the skin. The makers of this particular mixture, in the form of an ointment, modestly assert that it will cure all skin diseases, and is also 'A Specific for Pruritus Ani, Itching Piles, and Pruritus Vulvæ.'

"An equally efficient ointment, so far as the ointment itself and not the misleading claims made in connection with it may be concerned, is to be found in the Unguentum Resorcini Compositum, N. F. This ointment represents:

Resorcinol	6 parts
Zinc Oxid	6 parts
Bismuth Subnitrate	6 parts
Oil of Cade	12 parts
Paraffin	10 parts
Petrolatum	25 parts
Hydrous wool fat	35 parts"

Solubility of Phenol

To the Editor:—In regard to making aqueous solutions of phenol (carbolic acid), as discussed in THE JOURNAL, Oct. 2, 1909, p. 1114, if the phenol is dissolved in soap solution it will mix readily with water. I use a solution of green soap made according to the following formula:

Green soap	16 parts
Alcohol	8 parts
Oil of cloves	1 part
Water, sufficient to make	32 parts

Equal parts of this solution and of phenol are mixed, and if the mixture is not clear the addition of a few drops of alcohol will make it so.

B. L. HALE, M.D., Cherryvale, Kan.

COMMENT: This process yields a preparation similar to the Liquor Cresolis Compositus, U. S. P., a 50 per cent. solution of cresol in green soap, or to the Liquor Sodii Carbolatis, N. F., which is a 50 per cent. solution of phenol in water made by the aid of 3.5 per cent. of sodium hydroxid.

Correspondence

Frequency of Tuberculosis in Man

To the Editor:—Under this caption an editorial in THE JOURNAL (Oct. 23, 1909, liii, 1402) discusses the apparent disparity between the findings of Naegeli of Zurich and Burkhardt of Dresden and those of Beitzke of Berlin.

Naegeli found evidence of either latent or active tuberculosis in 97 per cent. of 500 successive adult bodies, and Burkhardt obtained very similar results in a large number of autopsies. Beitzke, in 1,100 bodies studied especially with reference to the presence of healed and active tuberculosis, found between 50 and 60 per cent. with positive evidence of the disease, either in the lungs or lymphatic glands.

There appears to be no doubt that Naegeli and Burkhardt were correct in their statements, for their conclusions were not based wholly on finding caseous areas or calcareous deposits in the lungs and lymphatic glands, nor yet on the presence of pleuritic adhesions, but rather on microscopic and bacteriologic examinations of these and other body tissues. If I have read their article aright, they often found tubercle bacilli in the meninges, in the glands and in thoracic or abdominal organs in cases in which there were no macroscopic appearance of the disease, while for Beitzke's purpose such minute examinations were unnecessary. The explanation that the larger percentage of tuberculous subjects found by the first two observers was due to greater frequency of the disease in their cities than in Berlin, or to a physically poorer class of patients, does not seem to apply to the case; for the observers were working on different problems; their methods were not the same, and the latter observer had no occasion to search for bacilli unless macroscopic appearances suggested the presence of tuberculosis.

Eminent surgeons have asserted that 80 per cent. of the human family are tuberculous, and there seems no good reason to doubt that they were correct, from their point of view; but as they do not see many medical cases of tuberculosis, their estimate would naturally give a lower percentage than those of Naegeli and Burkhardt.

Beitzke believes that Naegeli's statement should be changed to read: "In autopsy material of the hospitals of certain large cities nearly every adult body is tuberculous." He also believes that only about one-half of all persons in all states of society suffer from a demonstrable tuberculous lesion during their lives.

These appear to show that there is really no discrepancy between his findings and those of Naegeli and Burkhardt, who wrote only of the post-mortem conditions, many of which evidently could not possibly have been demonstrable during life. Considering the exhaustive methods employed by Naegeli and Burkhardt, the opinions of surgeons, and the conditions found by Beitzke, I can find no reason for doubting that practically every adult human being has, or has had, either latent or active tuberculosis.

It is most important that this should be recognized by the profession in their efforts to prevent tuberculosis, and also from a prognostic point of view for patients suffering from the active manifestations of the disease. If we all harbor tubercle bacilli, it is clear that they do not cause much more trouble than numerous other pathogenic organisms often found in healthy bodies; their host is in no special danger from them so long as he keeps well; but he should never abuse his body, nor allow his physical condition to run below normal if it can possibly be prevented.

If we all harbor these bacilli there is no reason for the insane fear of taking in a few more or less, and we need not shun the unfortunate sufferers from consumption, provided they are cleanly in their habits.

If we all have tuberculosis, the futility of directing our prophylactic measure chiefly against the bacilli, as has been so commonly done in recent years, becomes at once apparent, and we must realize that such measures are only a small part in the battle against the white plague, and that they are of far less importance than securing highly resistant bodies by good heredity, good environment and sane living.

E. FLETCHER INGALS, Chicago.

The Responsibility of the Mentally Subnormal

To the Editor:—Your editorial on the above subject (Oct. 23, 1909, liii, 1403) is sound. No man who has committed a murder and who has been judged irresponsible may safely be entrusted with liberty. With the knowledge that his past record of insanity renders him immune to punishment, he has little to deter him from a repetition of his antisocial act; and an act once successfully committed is, under such circumstances, a constant invitation to its repetition.

Whether the state should feel obliged to support at its expense those who are a constant menace to others and who cannot possibly be useful citizens, I cannot say; there might be a more summary way of dealing with them; but if there be no death penalty certainly there should be no less than a life sentence for them.

The man with a mental make-up which sets at naught the right of his neighbor to die a natural death certainly has no right to be at liberty, whether he is what is ordinarily called "responsible" or not. The very fact that he is of that make-up renders him irresponsible and it is the state's duty, the first time this becomes apparent, to take care of him.

G. H. HEALD, Washington, D. C.

The Netting Eye-Shield

To the Editor:—The improved eye-bandage described and illustrated by Dr. C. W. Talbot (THE JOURNAL, Oct. 30, 1909, liii, 1487) is exactly like the Fuchs *Schutzgitter* (lattice-shield) which has been in use in the clinic in Vienna for the past twenty-five years. It is described in Elschnig's edition of Czermak and also in all text-books on ophthalmic surgery.

It seems that an author should examine into the originality of his device before publishing a claim for originality, and that THE JOURNAL is also at fault for inserting the description in its worthy columns.

JESSE S. WYLER, Cincinnati.

Association News

Trustees' Meeting

The Trustees of the American Medical Association met in Chicago October 22 and 23, at the rooms of the Association. Three sessions were held on Friday, October 22, and one on Saturday, October 23. There were present at all sessions:

Dr. M. L. Harris, Chicago (Chairman).
Dr. Wisner R. Townsend, New York (Secretary).
Dr. Philip Marvel, Atlantic City, N. J. (Vice-chairman).
Dr. W. W. Grant, Denver, Colo.
Dr. Philip Mills Jones, San Francisco, Cal.
Dr. W. T. Councilman, Boston, Mass.
Dr. W. T. Sarles, Sparta, Wis.
Dr. C. E. Cantrell, Greenville, Texas.
Dr. C. A. Daugherty, South Bend, Ind.

The first session on Friday was held from 10 a. m. to 12:30 p. m. The secretary reported that since the last meeting the following circular letter had been sent the chairmen of all standing and special committees, and that replies had been received from all:

"On September 10 the following notice was sent to you:

Your attention is respectfully called to the following resolutions which are in effect in the Board of Trustees:

First: That all annual appropriations be made to date from the termination of the annual session to the termination of the next annual session.

Second: That appropriations so made must not be exceeded.

Third: That suitable blanks for use by committees, etc., in making applications, bills, etc., will be provided on application to the Secretary of the Association, Dr. George H. Simmons, 535 Dearborn Avenue, Chicago, Ill.

The Trustees would kindly request that you present an estimate of the funds needed for the ensuing year to the Secretary on or before October 1, as there will be a full meeting of the Board in October, when the matter will be taken into consideration.

Your attention is respectfully called to the following amendments to the By-Laws which were passed by the House of Delegates at Altantic City:

Chapter IX, Section 1: Add to the section the words "during the intervals between the sessions of the House of Delegates, the Board of Trustees shall supervise the action of committees constituted by action of the House."

Chapter X, Section 1: Add to the section the words "any of these committees, acting during the intervals between the sessions of the House of Delegates shall be subject to the Board of Trustees."

"Should your committee desire to take any action during the intervals between the meetings of the House that would be governed by either of the above sections, won't you kindly first communicate with the Chairman of the Board of Trustees, Dr. M. L. Harris, 100 State street, Chicago, Ill., in order that the matter may be officially brought to the Board's attention.

"Yours very truly,
"M. L. HARRIS, Chairman,
"WISNER R. TOWNSEND, Secretary."

Dr. Harris, as Chairman of the Committee on Arrangements for the next meeting, reported that he had visited St. Louis and had arranged for Dr. Dorsett to act as Chairman of the Local Committee on Arrangements.

Dr. Harris, Chairman of the Committee on Postal Relations of THE JOURNAL, reported progress, and stated that the action of the Board of Trustees and House of Delegates at Atlantic City, had been duly forwarded to the Third Assistant Postmaster General, and receipt acknowledged.

A letter from Dr. Wynn, outlining a plan for providing an exhibit of an educational nature, was read and Dr. Wynn was requested to present more definite data at the next meeting of the Board.

A letter from Dr. Reed was read, asking for an interpretation of the amendments to the by-laws made at Atlantic City. After a discussion of the same the following resolution was passed:

In accordance with the Amendments of By-Laws passed at the last meeting, at Atlantic City, which Amendments were passed without the knowledge or solicitation of this Board, it feels that it is the duty of the Board of Trustees to supervise the work of all committees.

The Board discussed fully the question of THE JOURNAL advertising and approved of the work and methods in use in that department.

SECOND SESSION, HELD FROM 3:15 TO 6:30 P. M.

A letter was read from the Honorable Seth Low, of the National Civic Federation, asking that delegates be appointed for the meeting to be held in Washington, Jan. 5, 1910, next, by that body. The Board passed a resolution requesting the president, Dr. Gorgas, to appoint six delegates to represent the American Medical Association.

The subject of the publication, by the Association, of books, was discussed and a committee appointed to consider the subject more fully.

Letters from the various committees asking for appropriations for the year were then taken up, and each matter considered separately. After full discussion on the needs of the committees, so far as the Board could ascertain, the following appropriations were made for the year 1909, these appropriations to apply from the termination of one annual meeting to the termination of the next annual meeting:

BUDGET FOR 1909-1910

	Amount Appropriated.
Judicial Council	$ 25.00
Committee on Medical Legislation	1,500.00
Committee on Transportation and Place of Session	25.00

Council on Medical Education	6,000.00
Board of Public Instruction on Medical Subjects	750.00
Council on Pharmacy, etc., and Chemical Laboratory	8,000.00
Committee on Organization (Traveling expenses)	6,000.00
Committee on Ophthalmia Neonatorum	100.00
Committee on Scientific Research	1,500.00
Committee on Nomenclature and Classification of Diseases	250.00
Committee on Pharmacopeia	300.00
Committee on Postgraduate study	900.00
Council on Defense of Medical Research	500.00
Committee on Scientific Exhibit	600.00
Committee on Uniform Regulation of Membership	25.00
Committee on Anesthesia	500.00
Committee on Selection of Insignia	25.00
Committee on Preventive Medicine and Public Health to Cooperate with Committee on Medical Legislation	50.00
Section Secretaries	600.00
State Secretaries Meeting	100.00
	$27,750.00

All unexpended balances at the end of the year revert to the Treasury of the Association, except that of the Committee on Scientific Research.

THIRD SESSION, HELD FROM 8:30 TO 10:30 P. M.

Dr. Marvel presented the report of the Committee of Arrangements of the Trustees for the Atlantic City meeting, involving expenses paid by the chairman, amounting to $5,919.75.

The subject of the large number of new committees appointed each year by the House of Delegates and the overlapping of the work of many of these, the demands of each for funds for stenographic purposes, etc., was carefully discussed, and, as a result, the Board passed a resolution recommending, in the interest of efficiency and economy, that the Committee on Organization of the Council on Public Health, Publicity and Legislation, should seriously consider the consolidation of a number of the present special committees.

FOURTH SESSION, SATURDAY, OCT. 23, HELD FROM 10 A. M. TO 12:30 P. M.

The new building for the Association was thoroughly considered. The architects, Holabird & Roche, were present and explained the plans that had been provided by the Building Committee. After a thorough discussion it was unanimously agreed that the Board of Trustees proceed with the erection of the new building, following the plans and specifications as revised, and the Chairman and Secretary of the Board of Tustees were authorized to sign the necessary contracts for the erection of said building. A Building Committee of three was appointed, consisting of Drs. Harris, Simmons and Grant, and directions given to proceed with the work without undue delay.

After reading and approving the minutes, the meeting adjourned.

M. L. Harris, Chairman.
Wisner R. Townsend, Secretary.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

WRIGHT BLOOD-STAIN TECHNIC

To the Editor:—Please publish the full technic for use of the Wright blood-stain, particularly in malaria.

D. G. Lemkowitz, M.D., Berwick, La.

Answer.—Cabot's "Clinical Examination of the Blood," p. 41. gives the following technic:

1. Drop on the blood film with a medicine dropper as much of the stain as will remain without spilling off; leave it there for one minute. This is chiefly to fix the film.
2. Add to the fluid on the cover-glass (or slide) sufficient water drop by drop to make visible a greenish metallic scum on the surface. For a ⅞ inch square cover-glass six to eight drops are usually needed, but the exact amount does not make any essential difference. Let the stain thus diluted remain for about two minutes on the film.
3. Wash the film in tap water and let it stand in water for one or two minutes more, or until the thinner portions of the film are yellowish pink. Water washes out part of the blue dye and differentiates the stain.
4. Dry cautiously with blotting paper or filter paper and mount in *balsam.*

The whole process should not consume more than five minutes

CHROMIUM SULPHATE

To the Editor:—Enclosed please find literature on "Chromium Sulphate in Medicine" sent out by John Wyeth & Brother, Inc. I would be pleased to receive an opinion on this drug.

G. D. Henderson, Holyoke, Mass.

Answer.—The use of chromium sulphate was discussed in The Journal, Nov. 28, 1908, p. 1885, and reference was there made to an article by L. Kolipinski (*Monthly Cycl. and Med. Bull.*, September, 1908). This appears to be the only contribution to medical literature on the therapeutic use of chromium sulphate. In his article, Kolipinski stated that so far as he knew his statements had not been confirmed by others, nor had this chemical attracted attention as a medicine. As the medical profession has been given ample opportunity to test Kolipinski's claims, it is very probable that such tests have been made by various physicians and having resulted unfavorably have not been deemed of sufficient importance for publication. The remarkable statements regarding the cure of locomotor ataxia must be regarded with critical conservatism, inasmuch as it is known that periods of apparent improvement or at least a failure of the disease to advance for a considerable time are frequently observed. The article stated that a symptomatic cure of hypertrophy of the prostate gland in old men is usually achieved in a few months but as no corroborative report of its use in this common disease has been received, it is fair to infer that the medicine in the hands of others has failed to accomplish what its introducer claims for it. So long as physicians write such optimistic reports regarding the action of medicines, manufacturers will, doubtless, continue to use these reports for advertising purposes.

JEFFERSON ADDRESSES AND ANNOUNCEMENTS WANTED

To the Editor:—I am collecting the introductory and valedictory addresses delivered at Jefferson Medical College since its foundation, which are to be placed in the library. I am also desirous of completing the library's files of the annual announcements of Jefferson Medical College prior to 1896-7. If Jefferson alumni, or any others, have any of the addresses or announcements which they are willing to dispose of, I will greatly appreciate the receipt of them. They can be sent to me in care of the "Librarian, Jefferson Medical College, 10th and Walnut Sts., Philadelphia.

H. R. M. Landis, M.D.

The Public Service

Medical Department of the Army

Changes for the week ended Oct. 30, 1909:

Phalen, J. M., capt., granted leave of absence for 2 months, when relieved from duty in the Philippines.

Duncan, W. A., capt., ordered to the Walter Reed Army General Hospital, Washington, D. C., for observation and treatment.

Harris, J. R., capt., granted leave of absence for 1 month.

DeLaney, E. A., capt., ordered to report for examination for promotion at Washington, D. C.

DeWitt, Wallace, capt., granted an extension of 1 month and 20 days to his leave of absence.

Van Horn, J. B., M. R. C., ordered to active duty; will proceed to Fort Mackenzie, Wyo., for duty.

Lemmon, Robert, M. R. C., ordered to sail for Philippine service Jan. 5, in stead of Nov. 5, 1909.

Van Kirk, H. H., M. R. C., granted leave of absence for 7 days.

Sherwood, J. W., M. R. C., ordered from Fort Williams, Me., to Fort McKinley, Me., for temporary duty.

Koyle, F. T., M. R. C., granted leave of absence for 2 months, on arrival at station in the United States.

Coffin, H. L., M. R. C., relieved from active duty in the service of the United States, Nov. 9, 1909.

Laflamme, F. L. K., dental surgeon, left Fort Wayne, Mich., and arrived at Fort Brady, Mich., for duty.

Lauderdale, C. E., dental surgeon, left Fort Huachuca, Ariz., for duty.

Medical Corps of the Navy

Changes for the week ended Oct. 30, 1909:

Byrnes, J. C., medical inspector, ordered to command the Naval Hospital, Naval Station, Narragansett Bay, R. I.

Hoen, W. S., P. A. surgeon, detached from the *Philadelphia*, and granted sick leave for 3 months.

Grayson, C. T., P. A. surgeon, detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the *Mayflower*.

Dykes, J. R., P. A. surgeon, detached from the *Mayflower*, and when discharged from the Naval Hospital, New York, ordered to the Naval Medical School Hospital, Washington, D. C., for duty.

Beyer, H. G., medical inspector, ordered to duty at the Naval Medical School, Washington, D. C.

Riggs, C. E., surgeon, ordered to the Naval Academy.

Commissioned Passed Assistant Surgeons: J. B. Mears, from July 14, 1908; T. W. Reed, from Sept. 21, 1909; C. E. Strite, from Sept. 27, 1908; R. C. Ransdell, from Nov. 24, 1908; W. S. Kuder, from March, 24, 1909; C. K. Winn, from March 24, 1909; J. P. Haynes from April 16, 1909; T. W. Raison, from June 1, 1909

Public Health and Marine-Hospital Service

Changes for the seven days ended Oct. 27, 1909.

Carter, H. R., surgeon, directed to proceed to Fort Wayne, Ind., on special temporary duty.

Wasdin, Eugene, surgeon, granted 1 month's leave of absence from Oct. 22, 1909, on account of sickness.

Nydegger, J. A., surgeon, leave of absence granted for 1 month and 7 days from Sept. 10, 1909, amended to read 1 month and 5 days.

Sprague, E. K., surgeon, leave of absence granted for 16 days from Oct. 8, 1909, amended to read 7 days.

Lumsden, L. L., P. A. surgeon, detailed to represent the Service at the Annual Conference of Sanitary Officers of the State of New York, to be held in Rochester, N. Y., Nov. 10-12, 1909.

Parker, H. B., P. A. surgeon, granted 3 days' leave of absence from Oct. 20, 1909, on account of sickness.

Anderson, John F., P. A. surgeon. Directed to proceed to Marietta and Philadelphia and New York, on special temporary duty.

Amesse, J. W., P. A. surgeon, granted 2 months' leave of absence from Nov. 1, 1909.

Long, J. D., P. A. surgeon, relieved from duty at San Francisco, and directed to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for duty, stopping en route at Columbia, S. C.

Foster, M. H., P. A. surgeon, granted 15 days' leave of absence en route home.

Wollenberg, R. A. C., asst.-surgeon, directed to report to the Medical Officer in temporary charge at Detroit, for temporary duty.

Simpson, Friench, asst.-surgeon, relieved from duty on the Revenue Cutter *Perry*, and directed to proceed to San Francisco, and report to Surgeon Rupert Blue for duty.

Hasseltine, H. E., asst.-surgeon, granted 7 days' leave of absence from Oct. 25, 1909, under paragraph 191, Service Regulations.

Bailey, C. A., acting asst.-surgeon, granted 3 days' leave of absence from Oct. 19, 1909.

Jackson, James M., Jr., acting asst.-surgeon, granted 20 days' leave of absence from November 8, 1909.

Miranda, R. U. Lange, acting asst.-surgeon, granted 1 month's leave of absence from Oct. 8, 1909, without pay.

Spohn, A. E., acting asst.-surgeon, leave of absence granted for 2 months from Sept. 1, 1909, without pay, amended to read 1 month.

Thompson, W. R. P., acting asst.-surgeon, granted 10 days' leave of absence from Nov. 1, 1909.

BOARD CONVENED

Board of medical officers convened to meet at the Marine Hospital, Stapleton, N. Y., Nov. 8, 1909, for the purpose of making a physical examination of two officers of the Revenue Cutter Service. Detail for the board: Passed Assistant Surgeon C. W. Vogel, chairman; Passed Assistant Surgeon C. L. Collins, recorder.

Health Reports

The following have been reported to the Marine-Hospital Service, during the week ended Oct. 29, 1909:

SMALLPOX—UNITED STATES

California, general, Aug. 1-31, 2 deaths.
Connecticut: Bridgeport, Sept. 26-Oct. 2, 1 case.
Georgia: Macon, Oct. 2-8, 3 cases.
Illinois: Chicago, Oct. 7-16, 1 case.
Indiana: Allen County, Aug. 1-31, 28 cases; St. Joseph County, 1 case.
Massachusetts: Boston, Oct. 9-16, 1 case.
Montana: Butte, Oct. 1-14, 12 cases.
New York: Buffalo, Oct. 9, 1 case.
North Carolina: Nine Counties, Aug. 1-31, 37 cases.
Ohio: Dayton, Oct. 10-16, 1 case; Springfield, Oct. 9-16, 9 cases.
Washington: Seattle, Aug. 1-31, 6 cases.

SMALLPOX—FOREIGN

Austria: Bohemia, Sept.26-Oct. 2, 2 cases.
Brazil: Bahia, Aug. 28-Sept. 24, 44 cases, 28 deaths.
Egypt: Cairo, Sept. 10-16, 1 case, 2 deaths.
France: Paris, Sept. 29-Oct. 2, 1 case.
Java: Batavia, Aug. 29-Sept. 11, 5 cases.
Malta: Valetta, Sept. 12-18, 1 case.
Mexico: Mexico, Oct. 9, 3 cases.
Portugal: Lisbon, Sept. 27-Oct. 2, 5 cases.
Russia: Riga, Sept. 27-Oct. 2, 3 cases; St. Petersburg, Sept. 12-15, 21 cases, 11 deaths.
Spain: Almeira, June 1-30, 3 deaths; Barcelona, Sept. 28-Oct. 4, 3 deaths; Huelva, Aug. 1-31, 8 deaths; Vigo, Sept. 26-Oct. 2, 1 death.

CHOLERA

China: Amoy, Aug. 29-Sept. 4, 17 deaths; Hankow, Sept. 5-11, 5 cases; Shanghai, present among natives; Swatow, Aug. 28, 3 cases, 2 deaths, on S. S. *Waising*.
India: Bombay, Sept. 15-21, 1 death; Calcutta, Sept. 5-11, 9 deaths; Rangoon, 3 deaths.
Korea: Seoul, to Sept. 25, 400 cases.
Manchuria: Dalny, Sept. 5-18, 18 cases, 14 deaths.
Netherlands: Lopik, Oct. 2, 1 case; Hansweert, 1 case.
Philippine Islands, Sept. 5-11, 20 cases, 13 deaths; Provinces, 314 cases, 248 deaths.
Sumatra: Djambi, Aug. 10-20, 6 cases.

YELLOW FEVER

Brazil: Bahia, Aug. 28-Sept. 17, 6 cases, 3 deaths.

PLAGUE

Brazil: Bahia, Aug. 29-Sept. 24, 11 cases, 8 deaths.
China: Amoy, Aug. 29-Sept. 4, 47 deaths.
India, general, Sept. 5-11, 2,781 cases, 2,096 deaths; Madras, Sept. 11-17, 2 deaths; Calcutta, Sept. 5-11, 5 deaths; Rangoon, 10 deaths.
Japan: Kobe, Sept. 18-25, 2 cases, 2 deaths.
Mauritius, Aug. 6-12, 3 cases, 2 deaths.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Regulation of Medical Charity in Chicago

The physician has always been a liberal dispenser of charity. Consciously or unconsciously, it has been recognized both in the profession and by the public that any one sick or suffering could have the gratuitous services of a physician at any time and in almost any place. Not only is this true of the physician on the staff of the city dispensary or clinic, but it is equally well-known that every physician makes calls for which he knows he will receive no compensation, and sends bills which he knows will never be paid. The time will never come when any one actually needing the services of a physician will be prevented from receiving aid on account of his inability to pay for such services.

In our great cities, however, there has developed in the last few decades a systematic abuse of the charities of the medical profession which has reached startling proportions. Free dispensaries and clinics have been established everywhere without regard to their need or justification. Many of these clinics are crowded daily with patients who are given professional services, often by leading members of the profession, without any effort to discriminate between those deserving of such charity and those well able to pay for medical services. The free dispensary question is essentially peculiar to the large city and has been repeatedly discussed from various points of view in the last few years.

The lack of reliable data on this question being apparent, the Chicago Medical Society, in 1906, appointed a "Committee on the Abuse of Medical Charities," with instructions to investigate the entire matter and report the facts as they existed in Chicago, together with any recommendations for improving the conditions. After a year's investigation, the committee reported that there were in Chicago at that time (June, 1907) fifty-five free dispensaries, sixteen of which were connected with hospitals, nine with medical colleges, while thirty had no connection with any charitable or teaching institution. Twenty-seven were used for some form of clinical instruction, seven were privately owned and operated. In six dispensaries, medicine and treatment were furnished free; in eighteen, a charge was made to cover the cost of medicine, and in twenty-three as much money was collected from the applicant as could be obtained. Only twenty-six made any claim to investigation of the ability of the applicant to pay, while in all except four of the fifty-five dispensaries the only attempt at investigation consisted of a few questions put to the applicant by the physician in charge. One dispensary referred cases of doubtful merit to the Chicago Bureau of Charities for investigation, while three employed a nurse or a clerk to look up suspicious cases and ascertain whether or not they were worthy. Twenty-six of these dispensaries were run in such a slipshod fashion that it was impossible to determine the number of patients treated. The remaining twenty-nine dispensaries treated during the previous year 223,110 persons. Sixteen dispensaries, which kept a record of the number of times each patient received treatment, has treated 93,806 persons and had given them treatment 246,140 times. The committee concluded from the data secured that at least twenty-five per cent. of the population of Chicago were receiving free medical services in some form, while only one-half of one per cent. of the population were the recipients of other forms of charity, in other words, the charitable burden imposed on the medical profession was fifty times greater than that imposed on any other class of society.

This report aroused much interest and led to further investigation. The committee reported from time to time and finally, in March, 1909, submitted a carefully prepared report summarizing its recommendations. The following premises were agreed on as starting points for the discussion:

1. Charity is a cardinal virtue of medicine. No matter how heavy the burden of true medical charity may fall on the

medical profession, it is willing to carry the burden, but the medical profession has come to a recognition of the evils which have crept into the work of charitable institutions and is bent on removing these evils.

2. The practice of medicine is based on the confidence of the people. Whatever means we shall select as the best to eradicate these evils, it is necessary that they must find public confidence and approval.

One of the evils which the committee recognized was the infringement by undeserving persons on privileges established for the deserving poor, thus working an injustice to the poor themselves, to the charitable institutions and organizations, and to the physicians, as well as to the profession at large, whose economic rights have been interfered with by unjust administration of medical charity. The progress of medical science as well as the interests of medical colleges and of the general public are all concerned in a just and adequate administration of public charities. The administration of medical charities is closely related to many serious economic and moral questions. One proposition must, in justice to all concerned, be given weight over all others, namely, the improvement of efficiency in service. The abuse of the free facilities for treatment provided for the deserving poor is the greatest evil connected with the problem and its removal is consequently the first step in a general reform of the administration of medical charities. The committee considered that the correction of this evil was only possible by placing the different interests involved on a sound and ethical basis. The interests concerned are generally benevolent but are often conflicting and antagonistic. The organization of medical charities must, therefore, rest on the same principle as that on which modern organization of general charities is based, namely, investigation of those to whom charity is given.

The committee therefore sought for advice and cooperation from the organized charities of Chicago and the following plan of administration was formulated: Each institution, dispensary or hospital shall receive each applicant for free medical service who presents himself as if in good faith. The following facts regarding each applicant shall be secured by the institution before any treatment is given: name, address, sex, nationality, married or single, widowed or separated, names and ages of children, amount received in wages by each, number in family, number of rooms occupied and rent paid. The applicant is to be given the first treatment, but is to be told that his claims for gratuitous service will be investigated. Cards bearing a duplicate record of each applicant will be sent each day to the bureau of investigation of the local charity organization, which will investigate each case and report to the institution to which application for relief was made. Emergency operations shall be performed at once if necessary. Operations of election shall not be performed until the investigating bureau has reported.

This plan was the result of conference and cooperation between committees from Chicago Medical Society, Chicago Homeopathic Society, Chicago Eclectic Society, Chicago Physiomedical Society, Chicago Bureau of Charities, Chicago Relief and Aid Society, Jewish Relief and Aid Society, Children's Relief and Aid Society, and other miscellaneous charitable bodies. The proposed plan was submitted to the general membership of the Chicago Medical Society by a general referendum at the annual election, held June 15, 1909, and was adopted by an overwhelming majority. The referendum submitted declared that it was the fixed purpose of the Chicago Medical Society to inaugurate plans whereby every patient treated in a free institution by a member of the Chicago Medical Society should undergo an investigation as to his or her economic right to free services and that, following the adoption of this plan by the society, it should be a matter of society ethics for all members of the society serving on staffs of charitable medical institutions to conform to and enforce the accepted method of administration. The money needed for carrying out this plan is to be subscribed from the general public and from the members of the society and profession. The members of the society pledged themselves individually to a full financial support of the proposed plan, stating, however, that they considered that the burden of administration expense ought, eventually to be assumed by the general public, inasmuch as the medical profession is contributing its services. The proposed method was widely discussed, both in the *Bulletin*, at the general meetings of the society and in the branches, and resulted in the endorsement of the plan by the general society membership. It consequently becomes obligatory on any dispensary with which a member of the Chicago Medical Society is connected to report the names of all applicants for relief to the investigating bureau of the local charitable organization for investigation and report.

The unique features in this work are the careful preliminary investigation of existing dispensaries as a foundation for subsequent consideration; the free discussion and hearty cooperation between the medical profession and the existing charitable organizations; the length of time that was devoted to careful consideration before formulating the report, and the final decision to turn the entire charitable aspect of the problem over to the properly constituted charitable authorities, the medical profession practically agreeing to treat free of charge all persons whom the investigating bureau of the local charitable organization reports as worthy. The result, aside from the economic features of the case, has been a marked increase of cooperation and mutual understanding between the organized medical profession and the organized charities of the city. This result alone is well worth all the work which was performed. The administration of medical relief has been put on a sound economic and moral basis which cannot but improve local conditions. The experience of the Chicago Medical Society in this particular is most interesting and is worthy of the careful study of other medical organizations in large cities.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month—Second Weekly Meeting

Scarlet Fever, Scarlatina

Period of Incubation.

Mode of Transmission: Patient, clothing, toys, domestic animals, food, air, third person. Duration of infection.

Bacteriology.

Pathology: Changes in skin and mucous membranes. Changes in other regions.

Symptoms: Invasion, duration, symptoms. Eruption, character, variations, desquamation. Clinical forms, (a) mild, (b) moderate, (c) severe, (d) malignant or cerebral cases.

Complications and Sequelæ: Throat, (a) erythematous, (b) membranous, (c) gangrenous angina. Lymph glands and cellulitis of neck. Ears, kidneys, joints, respiratory and digestive systems.

Diagnosis: Onset, vomiting, fever, angina, tongue, rash. Differentiate from diphtheria, measles and rubella. Differentiate rash from erythema, scarlatinoids of pyemia, septicemia, typhoid, diphtheria, antitoxin, quinin and other drugs.

Prophylaxis.

Action of Roentgen Rays on the Thymus.—Aubertin and Bordet report in the *Zentralblatt für innere Medizin*, October 2, a series of researches on young cats and rabbits to determine the effect of Roentgen exposures on the thymus. There was intense destruction of the lymphoid tissue, and the thymus became gradually transformed into what seemed to be ordinary connective tissue, the gland thus losing its lymphoid character completely. The changes observed are not specific, but have seldom if ever been observed in the thymus. Hassall's corpuscles became much hypertrophied, confirming the assumption that the growth of these corpuscles is connected with the retrograde metamorphosis of the thymus.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 9. Sec., Dr. F. T. Murphy, Brinkley.

CONNECTICUT: Homeopathic, New Haven, November 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.

CONNECTICUT: Regular, City Hall, New Haven, November 9-10. Sec., Dr. Charles A. Tuttle, 196 York St.

FLORIDA: Jacksonville, November 10-11. Sec., Dr. J. D. Fernandez.

MAINE: Portland, November 9-10. Sec., Dr. Frank W. Searle, 806 Congress St.

MASSACHUSETTS: State House, Boston, November 9-11. Sec., Dr. E. B. Harvey, Room 159, State House.

NEBRASKA: Senate Chamber, State House, Lincoln, November 10-11. Sec., Dr. E. Arthur Carr, 141 South Twelfth St.

TEXAS: Levy Bldg., Greenville, November 9-11. Sec., Dr. M. E. Daniel, Honey Grove.

WEST VIRGINIA: Chancellor Hotel, Parkersburg, November 9-11. Sec., Dr. H. A. Barbee, Point Pleasant.

Michigan Reciprocity Report

Dr. B. D. Harison, secretary of the Michigan Board of Registration in Medicine, sends us a list of those licensed by that board through reciprocity and under exemption clauses, since January, 1909. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with.
Georgetown University	(1906)	Dist. Colum.
Yale University	(1908)	New York
Rush Medical College	(2, 1908)	Illinois
Northwestern University Medical School	(1907) (1908)	Illinois
Northwestern Univ. Woman's Med. School	(1889)	Illinois
Chicago College of Medicine and Surgery	(1907) (1908)	Illinois
Dearborn Medical College	(1907)	Illinois
Indiana Medical College	(1906)	Indiana
College of Physicians and Surgeons, Baltimore	(1896)	Illinois
[illegible]	(1905)	Maryland
[illegible]ool	(1905)	Maine
[illegible]	(1886) (1887) Ohio; (1892)	Wisconsin
[illegible]	(1899)	Minnesota
St. Louis Medical College	(1874)	Iowa
Albany Medical College	(1906)	New York
Long Island College Hospital	(1891)	Wisconsin
Cleveland Homeo. Med. Coll.	(1871) Indiana; (1903)	Ohio
Eclectic Medical Institute, Cincinnati	(1899)	Ohio
University of Vermont	(1891)	Wisconsin
Laval University, Quebec	(1898)	Vermont

LICENSED UNDER EXEMPTION CLAUSES

College	Year of Grad.
American Medical Missionary College	(1906) (1907)
Detroit College of Medicine	(1906)
Detroit Homeopathic Medical College	(2, 1909)
Trinity Medical College, Ontario	(1899)

Indiana July Report

Dr. W. T. Gott, secretary of the Board of Medical Registration and Examination, reports the written examination held at Indianapolis, July 13-15, 1909. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 104, of whom 101 passed and 3 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1905)	89
Chicago College of Medicine and Surgery	(1909)	84
Hering Medical College	(1909)	89
Illinois Medical College	(1908) 88; (1909)	81
Bennett Medical College	(1889)	86
Northwestern University Medical School	(1909)	87, 88, 92
College of Phys. and Surg., Chicago	(1899) 80; (1909)	85
National Medical University, Chicago	(1906)	77
Indiana Medical College	(1906)	78
Indiana University	(1909)	78, 78, 82, 83, 83, 83, 83, 83, 83, 84, 84, 84, 84, 85, 86, 86, 87, 87, 87, 87, 87, 87, 87, 87, 87, 87, 88, 88, 88, 88, 88, 89, 89, 89, 89, 89, 89, 89, 89, 89, 90, 90, 90, 90, 90, 90, 90, 90, 90, 91, 91, 91, 92, 93, 94.
Physio-Medical College of Indiana	(1909)	75, 78, 87, 87
University of Louisiana	(1908) 83, 85; (1909)	75, 76, 84, 85, 86, 87, 89, 89, 89, 90, 94.
Louisville and Hospital Medical College	(1908)	76
Kentucky School of Medicine	(1907)	76
Johns Hopkins University	(1908) 92; (1909)	87
Southwestern Homeopathic Med. Coll., Louisville	(1897)	81
University of Maryland	(1908)	84, 86
University of Michigan, College of Medicine	(1908)	91
Kansas City Hahnemann Medical College	(1908)	80
St. Louis College of Phys. and Surg.	(1900) 81; (1909)	91
Washington University, St. Louis	(1908)	83
University and Bellevue Hospital Medical College	(1906)	91
University of Pennsylvania	(1904) 89; (1909)	92
Jefferson Medical College	(1908)	88

FAILED

College	Year Grad.	Per Cent.
Jenner Medical College	(1907)	66
University of Louisville	(1908)	68
St. Louis College of Physicians and Surgeons	(1907)	58

Marriages

GEORGE PARKE, M.D., to Miss Elsie Bennett, both of Sylvan, Wis., September 22.

FRANCIS M. PERKINS, M.D., to Mrs. Sarah T. Addis, both of Philadelphia, October 19.

JOSEPH FLEITAS, M.D., to Miss Lucretia Allison, both of Philadelphia, October 20.

WILLIAM B. COX, M.D., to Miss Leila Da Vega, both of Chester, S. C., October 13.

EMIL OTTO FICKE, M.D., to Miss Lillian M. Heede, both of Davenport, Iowa, October 21.

WALTER FREEMAN BROWN, M.D., to Miss Mabelle Brown, both of Philadelphia, October 22.

JULIUS PAUL LAUER, M.D., to Miss Helen McKenzie Brown, both of Philadelphia, October 12.

CUTHBERT THOMPSON, M.D., to Miss Julia Morsel Mengel, both of Louisville, Ky., October 12.

DANIEL WEBSTER ZIRKER, M.D., Merced, Cal., to Miss P. O. Smith, of San Francisco, October 12.

WILLIAM W. LEAKE, M.D., New Orleans, La., to Miss Virginia de Neveu, of Chicago, November 3.

SILAS HALL, M.D., Vincennes, Ind., to Mrs. Anna A. Gantz, of Carnegie, Pa., at Vincennes, October 21.

GEORGE CLARENCE PARCHER, M.D., Saugus, Mass., to Miss Isabelle Graham, of Stoneham, Mass., recently.

JOHN DAVIS CHAMBERS, M.D., Portland, Ore., to Miss LeClaire Gilmore, of Rock Island, Ill., October 20.

THOMAS PAUL DOOLE, M.D., Fredonia, Texas, to Miss Mamie Frances Melton, of Fort Worth, Texas, October 25.

SAMUEL EUGENE HOLTZCLAW, M.D., Greer, S. C., to Miss Bessie Amelia Willis, at Leetown, W. Va., October 14.

JOSEPH ENNALLS MUSE, M.D., Baltimore, Md., to Miss Laura Manulita Travers, of Cambridge, Md., November 3.

MALVERN BRYAN CLOPTON, M.D., St. Louis, Mo., to Miss Lily Lambert Walker, of New York City, October 27.

STEPHEN N. JORDAN, M.D., Sour Lake, Texas, to Miss Zelma V. Sharman, of Liberty, Texas, in Houston, Texas, October 14.

RALPH WALDO NEWTON, M.D., M.R.C. U. S. Army, Fort Revere, Mass., to Miss Ethel Blanche McCrillis, of Hyde Park, Mass., October 4.

Deaths

George Eastman Stubbs, M.D. Harvard Medical School, Boston, 1863; one of the founders of the Medico-Chirurgical College of Philadelphia; for several years a member of the board of trustees, treasurer, and professor of anatomy, clinical surgery, and surgical pathology in that institution; for twenty years surgeon to the Charity Hospital, Philadelphia, and for several years an officer of the Philadelphia Board of Health; assistant surgeon U. S. Army, and brevet captain U. S. V. during the Civil War; died at his home in Merion, Pa., October 21, from cerebral hemorrhage, aged 69.

Frank Charles Bourscheidt, M.D. Rush Medical College, Chicago, 1887; one of the founders of the Illinois State Pharmaceutical Association in 1881, and its first president; from 1880 to 1890, a member of the committee on revision of the United States Pharmacopeia; for one year president and for two years secretary of the *Peoria Medical Society*; gynecologist to St. Francis Hospital; and at one time commissioner of health of the city; died at his home, October 16, from carcinoma of the stomach, aged 58.

Edward Grove, M.D. Cleveland University of Medicine and Surgery, 1897; of San Diego, Cal.; a member of the Medical Society of the State of California; was instantly killed while returning at night from making a professional call, October 19, by the plunging of his automobile over an embankment, near Foster, aged 36. The San Diego County Medical Society, at its meeting October 20, adopted resolutions expressing its high esteem for Dr. Grove, and extending its sympathy to the bereaved wife, family and friends.

Samuel Sigmund Kahn, M.D. College of Physicians and Surgeons, New York City, 1877; of San Francisco; a member of the American Medical Association; for a short time a member of the Medical Corps of the Army; city physician of San Francisco from 1882 to 1890; a director of and obstetrician to Mount Zion Hospital; who had been ill with intestinal amebiasis for several weeks and was believed to be convalescent; died at a hotel in Coronado, Cal., October 18, from angina pectoris, aged 53.

Robert Amasa Stephenson, M.D. Jefferson Medical College, Philadelphia. 1863; a member of the American Medical Association; who entered the army as a medical cadet in 1861, and later served as assistant surgeon of the Sixth Ohio Volunteer Infantry, and as brigade surgeon, and was severely wounded at Atlanta; a member of the local board of U. S. pension examining surgeons; auditor of Adams county, Ohio, in 1899; died in his office in Manchester, October 22, from cerebral hemorrhage, aged 71.

Irwin Hamilton McConnell, M.D. Atlantic Medical College, Baltimore, 1904; for a time surgeon for the Harper's Ferry and Hagerstown division of the Baltimore and Ohio Railroad; prominent as an athlete; physical director of the Y. M. C. A. of Washington, D. C.; died at his home in that city, October 18, from nephritis, aged 27.

William H. Twiford, M.D. Starling Medical College, Columbus, Ohio, 1851; surgeon of the Twenty-seventh Indiana Volunteer Infantry, and later chief surgeon of the First Division, Twentieth Army Corps during the Civil War; representative in the Minnesota legislature in 1867; died at his home in Owatonna, Minn., recently, aged 88.

James Pinckney Booth, M.D. Texas Medical College, Galveston, 1871; a member of the American Medical Association; professor of state medicine and hygiene in the College of Physicians and Surgeons, Los Angeles; and formerly editor of the *Los Angeles Medical Journal*; died at his home in Los Angeles, October 23, aged 62.

James M. Hoyle, M.D. Berkshire Medical College, Pittsfield, Mass., 1857; a surgeon in the Confederate Service during the Civil War; for several terms a member of the board of supervisors of Pontotoc county, Miss., and representative from Lee county in the legislature, died at his home in Tupelo, July 14, from asthma.

James Fulton, M.D. Trinity Medical College, Toronto, 1876; of St. Thomas, Ont.; local surgeon of the Michigan Central Railroad; president of the Amasa Wood Hospital; and chairman of the Board of Health; died September 15 in Victoria Hospital, London, Ont., from shock following an operation, aged 58.

Thomas J. Boykin, M.D. University of Pennsylvania, Philadelphia, 1852; a surgeon in the Confederate Service during the Civil War; for many years a resident and wholesale druggist of Baltimore; died at the home of his daughter in Chicago, October 22, from senile debility, aged 82.

James Henry Boylan, M.D. Wisconsin College of Physicians and Surgeons, Milwaukee, 1903; a member of the Nebraska State Medical Association; district surgeon at Eddyville for the Union Pacific Railroad; died in Milwaukee, October 12, after an operation on the stomach, aged 44.

Addison Atterbury Bell, M.D. Jefferson Medical College, Philadelphia, 1849; formerly a member of the Medical Association of Georgia; a surgeon in the Confederate Service during the Civil War; died at his home in Madison, Ga., August 7, from cerebral hemorrhage, aged 87.

James Wells Herbert, M.D. University of Maryland, Baltimore, 1871; apothecary at the Marine Barracks, Washington, D. C., for several years; and prior to that time surgeon to the U. S. S. *Lancaster*; died at his home in Washington, September 5, from paresis, aged 59.

Darius F. Boughton, M.D. University of Michigan, Ann Arbor, 1870; of Chicago; from 1872 to 1881 a member of the staff of the State Hospital for the Insane, Mendota, Wis.; died in Wilmette, Ill., July 30, from carcinoma of the rectum, aged 65.

George A. Engert, M.D. University of Pennsylvania, Philadelphia, 1893; ad eundem, University of Vienna, Austria, 1895; a member of the Medical Society of the State of New York; died at his home in Rochester, October 21, aged 42.

John Kinkead, M.D. Bellevue Hospital Medical College, New York City, 1872; formerly of Lexington, Ky.; died at his home in Poughkeepsie, N. Y., where he had practiced for thirty-five years, June 28, from heart disease, aged 60.

Robert Gibson, M.D. Missouri Medical College, St. Louis, 1875; for forty years a practitioner and medical missionary of Alton, Ill.; died at his home in Siloam Springs, Ark., October 21, from cerebral hemorrhage, aged 71.

William Cooke Steedman, M.D. Louisville (Ky.) Medical College, 1899; of Lagrange, Ky.; a member of the Kentucky State Medical Society; died at the home of his brother in Louisville, October 21, from paralysis, aged 46.

George J. White, M.D. University of Michigan, Ann Arbor, 1880; local surgeon of the Chicago and Grand Trunk Railroad in Jackson, Mich.; died at his home in that city, October 19, from cerebral hemorrhage, aged 54.

James William Ryder, M.D. Dartmouth Medical School, Hanover, N. H., 1896; a member of the American Medical Association; died at his home in Boston, October 22, after a surgical operation, aged 41.

Raphael Walter Meyer, M.D. St. Louis College of Physicians and Surgeons, 1902; formerly of Dubuque and Anamosa, Iowa; died at Sherrill's Mound, Iowa, October 17, after a lingering illness, aged 36.

Thomas S. Gant, M.D. Washington University, St. Louis, 1883; at one time local surgeon for the Missouri Pacific Railroad at Auburn, Neb.; died in the city hospital, Nebraska City, October 20, aged 52.

Peyton Burdette Parker, M.D. Kansas City (Mo.) Medical College, 1890; of Westport, Kansas City, Mo.; died in the General Hospital, Kansas City, October 17, from cerebral hemorrhage, aged 44.

Frank Hereford, M.D. Missouri Medical College, St. Louis, 1877; a member of the Medical Society of the State of California; died at his home in Alpine, September 21, aged 55.

J. Edwin Corlis, M.D. Louisville (Ky.) Medical College, 1893; of Portageville, Mo.; was accidentally shot and killed while hunting near that place, October 22, aged 39.

David Grant, M.D. New York University, New York City, 1888; of Providence, R. I.; died at the home of his brother in Malone, N. Y., October 13, from paralysis, aged 45.

Dane Perry, M.D. Keokuk (Iowa) Medical College, 1896; of Bundy, Wis.; died in St. Mary's Hospital, Rhinelander, Wis., October 20, from typhoid fever, aged 52.

Harry Loftus, M.D. John A. Creighton Medical College, Omaha, 1908; formerly of Omaha, Neb.; died at his home in Escanaba, Mich., October 20, aged 28.

John Marshall Eaton, M.D. Harvard Medical School, Boston, 1856; a surgeon of volunteers during the Civil War; died at his home in Harvard, Mass., October 21, aged 77.

James Bascom Jordan, M.D. University of Pennsylvania, Philadelphia, 1873; died at his home in Newbern, Va., October 19, in an epileptic convulsion.

James Clifford Goodwin, M.D. Halifax, N. S., Medical College, 1906; died at his home in Meteghan, N. S., February 17, from lobar pneumonia, aged 29.

Lyman Condit Olds (license, Md.); died at his home in West Baltimore, October 21, from injuries received in a fall from a car, aged 80.

John B. Anderson, M.D. Jefferson Medical College, Philadelphia, 1848; died at his home, Sunnyside, Hopeful, Va., October 16, aged 83.

Gustavus A. H. Wendlandt, M.D. Missouri Medical College, St. Louis, 1873; died at his home in Princeton, Wis., October 16, aged 66.

John Goddard, Jr., M.D. Pulte Medical College, Cincinnati, 1897; died in Shanghai, China, September 9, from cholera, aged 37.

Thomas J. Davis, M.D. St. Joseph (Mo.) Hospital Medical College, 1883; died at his home in Graham, Mo., October 16, aged 57.

George Hunt, M.D. Boston (Mass.) University, 1881; died at his home in Bridgewater, Mass., October 24, aged 54.

Sir Thomas Smith, K.C.V.O.; F.R.C.S.; honorable sergeant-surgeon to the king; consulting surgeon to St. Bartholomew's Hospital and the Hospital for Sick Children; formerly vice-president of the Royal College of Surgeons of England; for forty-eight years a member of the staff of the Hospital for Sick Children, Great Ormond, street, London; assistant surgeon and surgeon of St. Bartholomew's Hospital, and lecturer on anatomy, and later appointed consulting surgeon and governor of the hospital; secretary of the surgical section of the International Medical Congress in London in 1881; died at his home in London, October 1, aged 76.

Book Notices

Myomata of the Uterus. By Howard A. Kelly, Professor of [illegible] Hopkins University, and Thomas S. Cullen, [illegible] ology, Johns Hopkins University. Cloth. Price, $7.50. Philadelphia: W. B. Saunders Co., 1909.

The aim of the authors in this work is to place before the medical profession the subject of myomas of the uterus in an adequate but not too voluminous manner. Consequently the work appears in one volume, beautifully illustrated and attractive in every way.

From carefully preserved specimens and histories, dating from 1889 to 1909, they have been able to furnish in the work a complete account of the operations, pathology and results in 1,674 cases. These cases are taken from Johns Hopkins University and the private clinics of the authors. The history of the surgical procedure appropriate to uterine myomas, has not been considered, but the operations in the respective cases show conclusively the advance in this line of surgery.

Much stress has been laid on the errors which have occurred, and which will be of great interest to surgeons generally.

Statistics show a gradually lessened mortality, and the authors assert that during the past two and one-half years this mortality has been less than 1 per cent. Heredity is said to play no part in the causation of these tumors, but that they are associated with malignancy is proven.

The chapters on differential diagnosis, abdominal and vaginal hysterectomies contain reports of cases comprising interesting and valuable data.

This work will be of great assistance to those doing pelvic surgery, and the authors are to be congratulated on the success of their undertaking, which must have taken an immense amount of time, labor and expense.

Quain's Elements of Anatomy. Edited by E. A. Schäfer, Johnson Symington and T. H. Bryce. Edition 11. Vol. III, Part 1: Neurology. By E. A. Schäfer and J. Symington. Cloth. Pp. 421, with illustrations. Price, $4.50. New York: Longmans, Green & Co., 1908.

Quain's Anatomy is so well recognized as a standard English text-book that in recording the appearance of a new volume it is necessary only to point out a few new features. Part 1 Volume III of the eleventh edition embraces the general structure and mode of development of the elements of the nervous system and the special structure of the spinal cord and brain. Part 2 of Volume III is to contain the descriptive anatomy of the nerves and sense organs, the two parts together forming a complete text-book on neurology, indispensable to all those who wish to keep abreast of modern work in nervous anatomy. The volume has been edited, and to a large degree rewritten by Professor Schäfer of Edinburgh and Professor Johnson Symington of Queen's College, Belfast. The work is divided into three main parts: First, a discussion of the general structure and development of the nervous system; second, a consideration of the structural elements of the nervous system; and, third, a description of the cerebral spinal axis, the latter occupying the greater part of the book. The description and illustrations of gross anatomy are much the same as in former editions, a few new illustrations being added. The principal additions are in the form of new illustrations on microscopic anatomy, most of which being from original drawings contributed by Professor Ramon y Cajal. The first two chapters have been rewritten and supplemented, the number of illustrations being largely increased. The reproduction of Professor Ramon y Cajal's drawings on pages 17, 19, 23, 26 and 31 are particularly striking. The neuron theory of Waldeyer is discussed in the light of recent histological investigations.

The Medical Directory of New York, New Jersey and Connecticut. Volume XI. Cloth. Pp. 855. Price, $2.50. Published by The Medical Society of the State of New York, 1909.

The eleventh volume of the Medical Directory of New York, New Jersey and Connecticut, published by the Medical Society of the State of New York for 1909, has just been issued. The book is of the same size, style and general arrangement as preceding editions. Insertion of names is restricted to physicians registered in accordance with the laws in the three states covered. The different portions of the book are printed on paper of different colors, making reference exceedingly easy, the directory for Manhattan and the Bronx being on white paper, that for Brooklyn on yellow, the remainder of the state of New York on white, and the alphabetical index on green. The same arrangement is followed in the other states, making it possible to select instantly the portion of the book which one desires to consult. Members in county and state societies are designated by a star, membership in other medical organizations being designated by appropriate abbreviations. Particularly noticeable is the new type used in this edition. A complete roster of the Medical Society of the State of New York and a complete list of hospitals, dispensaries, benevolent institutions, public health organizations, etc., are added, forming a complete medical directory for the entire state. The matter for New Jersey and Connecticut is not so exhaustive, being limited to the lists of physicians for each state, arranged alphabetically by postoffices. Through the efforts of the state society, consequent on the publication of this directory, the registration of the medical profession in New York State has been given careful supervision, a most important work which might well be undertaken in other states. The directory is of value to all wishing information regarding the medical profession of the states and particularly to physicians and members of the organization in New York.

Experimental Pharmacology. A Laboratory Guide for the Study of the Physiologic Action of Drugs. By Charles Wilson Greene Ph.D., Professor of Physiology and Pharmacology, University of Missouri. Edition 3, with 37 illustrations. Cloth. Pp. 76. Price, $1. Philadelphia: P. Blakiston's Son & Co., 1909.

This revised third edition presents a text-book for conducting experiments in the pharmacologic laboratory, which gives explicit direction suitable to the needs of the student. The student is in the main left to make his own deduction from the experiments. Importance of knowledge of experimental pharmacology as a foundation for rational therapeutics can not be overestimated. The volume before us is well adapted to afford the student the means of gaining a personal acquaintance with this subject.

Physiology and Pathology of the Urine. By J. Dixon Mann, M.D., F.R.C.P., Physician to the Salford Royal Hospital. Edition 2. Cloth. Pp. 324, with illustrations. Price, $3.25. Philadelphia: J. B. Lippincott Co.

In this second edition of Dr. Mann's book the more recent advances in physiologic chemistry, along both theoretical and practical lines, are embodied, with the result that the volume constitutes not only an excellent treatise on the physiologic and pathologic significance of the various urinary constituents, but an extremely practical handbook of urine analysis as well. It is true that the book contains many analytical methods beyond the reach of the ordinary practitioner; but the simple methods are given as well so that the book will serve his purposes as well as those of the more advanced investigator.

Tuberculosis; A Preventable and Curable Disease. By S. Adolphus Knopf, M.D., Professor of Phthisiotherapy at the New York Post-Graduate Medical School and Hospital. Cloth. Pp. 394, with illustrations Price, $2. New York: Moffat, Yard & Co., 1909.

The scope of this work is so broad that it can be read with much profit by everyone, lay and professional, who is in any way concerned with the tuberculosis problem. The layman is told that a proper mode of life and a careful observance of the physician's directions almost invariably result in cure. Physicians are given instructions concerning the diagnosis and treatment of the disease and their duties, not only toward their patients, but to the general public as well. Even the legislator, the employer, the clergyman and the educator are given helpful suggestions as to how they may aid in the eradication of tuberculosis. In fact, the strongest point made by the author is his appeal to the self-love of man. Each one is shown how he can help himself, and how by doing so he will help others. Knopf's personal views are so well known that it is unnecessary to touch on them in a book review. So far as the book itself is concerned, it is worthy of the highest commendation. It is a mine of useful and valuable information. The mechanical work is excellent; the illustrations are numerous, well made and really illustrative.

MEDICAL INSPECTION OF SCHOOLS. By A. H. Hogarth, M.B., B., Ch., D.P.H., County Medical Officer of Health for Buckinghamshire. Cloth. Pp. 360. Price, $2.00. New York: Oxford University Press, 1909.

The author of this work is a reformer who recognizes that an important crisis before his country and who sees in medical inspection of schools one of the steps necessary to secure the future of education and of national development. He accuses Great Britain of physical and intellectual degeneration and indifference to the vital problems of education. His remedy for the evils which he discerns lies in education—an education guided and controlled by the medical man. Medical inspection of schools is more than mere medical advice to school boards, more than inspection of school premises with reference to ventilation and the like, more than the exclusion of infectious diseases. It means that every teacher dealing with the difficult problems of school life may have the advantage of medical guidance; and that every child, normal or abnormal, may have medical inspection to determine his fitness for the work of education. The organization of the work of medical inspection and the duties of the school doctor and of the school nurse are fully discussed. The important question of medical treatment in the schools and the school clinic occupy two interesting chapters. A considerable amount of space is devoted to the discussion of diseases affecting school life. The description of these diseases is necessarily brief and adapted especially to the needs of teachers and educational authorities.

While the book is especially adapted to British conditions, much of it is equally applicable to everywhere. It will undoubtedly stimulate the demand for advanced medical care in the schools and aid in the attainment of modern ideals in education.

TEXT-BOOK OF SURGICAL ANATOMY. By William Francis Campbell, M.D., Professor of Anatomy, Long Island College Hospital. Cloth. Pp. 675, with 319 illustrations. Price, $5.00. Philadelphia: W. B. Saunders Co., 1908.

Campbell has translated isolated and consequently dry anatomical facts into their clinical values and thus gives them a vital interest to the teacher and to the student. The medical student receives the most benefit from that teacher who realizes that, regardless of their purely scientific value, some anatomical facts are of great importance while others are comparatively unimportant. The test of the value of the anatomical fact is its application to clinical conditions. As Campbell says, "A fact that can be utilized is a fact that will survive." There is throughout the volume an earnest effort to present facts as graphically as possible, either by illustrations or by concise tabulation of data. Liberal use is made of photographs, especially in illustrating fractures, the outlines of the bones concerned being drawn on the photograph. The book is copiously illustrated and is well printed on an excellent quality of paper. Especially commendable is the exhaustive index occupying thirty-three pages. A bibliography of the more important works consulted is also given.

THE ETIOLOGY AND NATURE OF CANCEROUS AND OTHER GROWTHS. By W. T. Gibson, A.R.C.S. Cloth. Pp. 123. Price, 6 shillings, net. London: John Bale, Sons & Danielsson, 1909.

Gibson, taking up the various factors apparently instrumental in the causation of cancer, first devotes considerable time to occupational incidence, with a discussion of the probable factors involved in this connection. Following this, he discusses other, more general, factors—inflammation, mechanical trauma, sunlight, *x*-rays, arsenic, etc. As a connecting link between all these miscellaneous factors, he calls attention to the little-accepted neurotic hypothesis of tumor growth, as one that in his view is of value. Finally, he discusses the increased alkalinity of the blood in malignancy, and goes so far as to suggest the induction of some degree of acidosis as a curative measure.

Gibson's arrangement of his material is not particularly well ordered, and his use of that material as a basis for his deductions would appear at times to be rather fine-drawn. These faults are somewhat excused by the prefatory remarks that the little book is in the nature of a preliminary statement, to be followed by a more extensive work. It is to be hoped that this latter will avoid the faults, while preserving the considerable suggestive value, of the present volume.

BIER'S HYPEREMIC TREATMENT. By Willy Meyer, M.D., Professor of Surgery at the New Y[illegible] Medical School and Hospital, and Prof. Dr. V[illegible] stant to Professor Bier, University of Berlin, [illegible] Cloth. Pp. 280, with illustrations. Price, [illegible] : W. B. Saunders Co., 1909.

The vogue which hyperemic treatment early obtained made it certain that new editions of this book would soon be demanded. The popularity of this treatment has, of course, been in part due to its being taken up as a new method, but much more because of the good results obtained. When too much is not expected of it, hyperemic treatment is a satisfactory and valuable aid to the physician. It is a compliment to the work of the authors in the first edition that so little change was apparently found necessary in the second, indicating that the first covered the subject thoroughly. The chief additions are some case reports and the bibliography. This last, although only a list of articles, will be of decided service for those who wish to look the subject up further.

OBSTETRICS. Edited by Joseph B. De Lee, A.M., M.D., Professor of Obstetrics, Northwestern University Medical School, with the Collaboration of Herbert M. Stowe, M.D. Vol. V, The Practical Medicine Series. Cloth. Pp. 236, with illustration. Price, $1.25. Chicago: The Year Book Publishing Co., 1909.

This book is more than a series of abstracts from literature for the year, as the editor's personal experience and opinions are given in numerous editorial comments. Scopolamin-morphin anesthesia receives considerable attention, the editor expressing the view that the need of anesthesia in obstetrics is overestimated and stating that he prefers chloroform and ether as more under the control of the attendant. The danger of morphinization of the new-born child is emphasized. Attention is called to the danger from the ordinary methods of resuscitation of asphyxiated children, and suggestions are given by the editor for safer and milder methods.

LEGAL MEDICINE AND TOXICOLOGY. By R. L. Emerson, A.B., M.D., Member of the Massachusetts Medico-Legal Society. Cloth. Pp. 593, with illustrations. Price, $5. New York: D. Appleton & Co., 1909.

This book has been written to fill the need for a single-volume treatise, bringing the subject of legal medicine and toxicology, heretofore little understood and appreciated except by the specialists, closer to the general practitioner. The subjects are treated from a practical point of view with special reference to the needs of a physician or surgeon, who suddenly finds himself confronted with a medicolegal case. As a feature of special interest it includes extracts from the various state laws affecting the practice of medicine, occupying about 200 pages. The section on toxicology is concise and accurate, but of necessity, some subjects have been treated with undesirable brevity. This criticism applies especially to the ptomains, which are treated in a chapter of only three pages.

Society Proceedings

COMING MEETINGS

American Physiological Society, Washington, D. C., December 28-30.
Hawaiian Territorial Medical Society, Honolulu, November 19.
Medical Association of the Southwest, San Antonio, Tex., Nov. 9-11.
Ohio Valley Medical Association, Evansville, Ind., November 10-11.
Southern Medical Association, New Orleans, November 9-11.
Southern Surg. & Gynecological Assn., Hot Springs, Va., Dec. 20-21.

WEST VIRGINIA STATE MEDICAL ASSOCIATION

Forty-Second Annual Session, Held at Elkins, Oct. 6-8, 1909

The President, DR. V. T. CHURCHMAN, in the Chair

The officers elected for the ensuing year were given in THE JOURNAL, Oct. 23, 1909, p. 1409.

Report of Subcommittee on Malpractice Defense

The subcommittee made the following recommendations:

> Your committee hereby recommends that the report of the Committee on Medical Defense be printed in circular form and a copy be sent to each of the component local societies, with a request that each of such societies discuss the general plan outlined, vote thereon, and forward the result of such vote to the chairman of the Committee on Medical Defense appointed at the annual session of 1908.

Endorsement of Social Hygiene

A resolution was passed as follows:

Resolved, That the West Virginia State Medical Association gives its hearty endorsement to the West Virginia Society of Social Hygiene in its purpose to promote the cause of social hygiene, and that it will cooperate with its aims.

The New Neurology

DR. C. A. WINGERTER, Wheeling: The science of neurology has long been retarded by the fact that its study has been dominated by thought along anatomic lines. The new neurology forgets the old divisions into diseases of the brain and cord and peripheral nerves, and studies along the lines of function, that is, it thinks physiologically of the nervous system. Under the old method, sheer memorizing of clinical phenomena was necessary. But since the neurone doctrine of Waldeyer has been developed the why and the wherefore of symptoms becomes plain; neurology becomes both simple and scientific. Physiopathology is writing the first splendid chapter of the new neurology, and psychology will write the next. Man is body and spirit, and reacts as a biologic unit to the world about him. He responds to purely physical stimuli, and he reacts likewise to purely psychic stimuli. The study of these purely psychic reactions must be studied by neurologists, and they must learn that psychotherapeutics has come to stay. Man is studying his own mind as never before and is building up a true therapeutic science on the laws of mind.

Oration on Surgery: Early Diagnosis of Gall-Stone Disease

DR. JOHN EDGERTON CANNADAY, Charleston: The average text-book describes terminal stages and dead-house findings to the serious detriment of the patient. There is, relatively speaking, no such thing as a symptomless stone in the gall-bladder. If we inquire carefully into the past history we will find symptoms in abundance. We might as well speak of a symptomless stone in the urinary bladder as in the gall-bladder. Neither gall-stone colic nor jaundice are at all necessary to the diagnosis of gall-stone disease. The sooner we get over this fallacy the better it will be for our patients. The earliest symptoms are often trivial in character and frequently referable to the stomach. There is a feeling of fulness, weight or distention in the epigastrium, which is both peristent and annoying. It is generally relieved by belching, and vomiting gives complete relief. Relief may be given by bending the body forward, by loosening the clothing or by flexing the thigh on the body. At times there is a little pain in the gall-bladder region, at times a respiratory effort is cut short by a sudden stabbing pain. There may be a slight chilliness in the evening with a goose-flesh feeling of the skin. These symptoms have often gone unrecognized. About every fourth woman past middle age and a few less men, have gall-stones. By constant care as regards the diet, hygiene and the use of laxative mineral waters, it is possible for these patients to keep in a condition of comparative comfort. But numerous retrograde changes may take place in the liver, gall-bladder and pancreas. When operative treatment becomes imperative the mortality risk is high and the technic of the work difficult. The early operation is easy, safe and prophylactic. The question of removal of the gall-bladder, or its drainage, is largely dependent on the practice of the individual operator as to whether he is inclined to operate early or late. The man who operates early will be able to cure most of his cases by simple drainage, while the one who waits for terminal stages will find the condition so serious that removal rather than repair will be often an imperative indication.

Gall-Stones in Woman of Sixty-Two

DR. J. E. RADER, Huntington, reported a case of gall-stones in a woman of 62. He removed 4,000 stones from the gall-bladder, varying in size from a millet seed to a hazelnut. The gall-bladder was greatly distended and inflamed. There was no previous history of gall-stones. The patient made an uninterrupted recovery.

Influence of Physical Defects on Personalities, Moral Obliquities and Crime

DR. G. H. BENTON, Chester: Personality represents the status or the expression of the status of the psychosomatic totality of an individual, and while there are as many distinct personalities as there are individuals in the universe, there are two grand divisions into which this subject can be conveniently separated and individuals may be considered under the classification of normal and abnormal personalities. The study of psychology confirms the fact that the mind is the culmination of the physical functioning of the brain through the sense organs, and the mind is composed of two distinct faculties, each embracing numerous subdivisions; the higher, or superior division, beginning with simple recognition or perception and being capable of advancing through all the steps to the highest degrees of mental attainment aggregating degrees of knowledge and wisdom, while the lower or subconscious mental strata is concerned with the recognition of physical functioning independent of thought; presiding over so-called reflex acts and directing physical processes intending to insure the comfort and well-being of the individual independent of reflection, judgment or thought, processes which may or may not be influenced or recognized by the higher functioning mind—"the psychic intellectualis."

In recognition of the two dissimilar results of cerebral functioning, we are conscious of feeling resulting from one process and of thought from another, yet the sensation of feeling and the fact of thought, while exerting much or little influence on each other, are two distinct entities. Through feeling we recognize states of satisfaction and discontent, pleasure and pain, desire and aversion, jealousy, hatred, grief, etc., which are purely the result of internal organization which we do not determine but which we feel without first having thought of them. These conditions exist for the preservation of both the man and the animal, without consciousness, reflection or any other active participation on the part of the individual being necessary; and these mental states, having reached certain intensities, simulate the impulse of an electric current applied to a vivisected animal, producing certain involuntary acts, such as movements, attitudes and gestures, entirely independent of consciousness, and always corresponding comfortably to the designs of nature for the needs and preservation of the individual. This subconscious neurocerebral functioning producing states of feeling, of impulse, of emotion, etc., constitutes the basis of the moral personality. The modification of the impulses arising from the functioning of the central nervous system by the intelligence represents the normal moral personality of any individual. Moral obliquities and crime are only the expression of different degrees of abnormality signifying intensity of feelings, which may be abnormal on the one hand, combined with a condition of relative intellectual paresis or normal feeling states with abnormal intellectual states, states of dissociation, etc. Hereditary defects involving the nervous system are the primary exciting causes of abnormal personalities, including moral obliquities and crime. Next come induced defects, toxic conditions, intrinsic autotoxicosis, extrinsic autotoxic states from alcohol or the infectious fevers, etc., traumatism, and accidental injuries.

Sterilization of Confirmed Criminals and Other Defectives

DR. J. R. BLOSS, Huntington: The defective classes include idiots, imbeciles, majority of the insane and the greater portion of the paupers and criminals, and while a certain amount of improvement can be secured in some of them by various training methods, etc., they can never become fit to propagate a strong and sturdy race. The outcome of propagation among defectives is seen among the suicides, homicides, in the divorce court and in all classes of criminality. At the close of the year 1908 the state of West Virginia had 3,397 persons under its care in the three hospitals for the insane at a cost of over $500,000 per year, the Penitentiary, Reform School and Girl's Industrial Home at a cost of over $500,000 a year. In thirty-eight years from 1870 to 1908 the ratio of insane under the care of the state increased from 1 in 2,135 of the total population to 1 in 583. Heredity is a very important etiologic factor in from 50 to 75 per cent. of patients in state hospitals. In two families, 14 of the 15 children are idiots and imbeciles. My conclusions are: 1. The defective classes are multiplying much more rapidly in proportion than the total population.

2. Stringent marriage laws will not control the increase among defectives. 3. Vasectomy, which does not impair the sexual powers, fulfils every requirement for sterilizing males (other than rapists) and should be provided for by law. 4. Salpingectomy should be provided for among defective females.

What Can the Medical Profession Do to Prevent Crime?

Dr. G. D. Lind, Richwood: There are two classes of criminals: first, those of apparently sound minds who have been driven to crime by the force of circumstances alone; second, those of unsound minds, and those who have inherited from ancestors certain degenerate tendencies. The second class is most numerous to-day. The ordinary motives for crime are less numerous to-day. Most crimes are due to degeneration of the race. If the same care were taken in breeding human beings as is taken in breeding animals and plants, there would be less insanity and crime. Statistics show that in the last thirty years homicides and insanity have increased over 200 per cent. in proportion to the population. Insanity is largely the cause of crime; drug intoxication is temporary insanity. The word assassin is derived from the Indian name of the drug cannabis indica which was taken by ancient assassins. When assassination was a political measure, degenerate men were chosen to commit the act. Insanity and tendency to crime are inherited in a great measure; so are genius and all good qualities. The punishment for crime and the treatment of the insane is a matter for the medical and not for the legal profession. Men should not be sentenced for a term of years but for an indefinite period, during which time an effort to educate and reform them should be made. Sterilization of males by vasectomy is to be recommended; castration should be advised only in cases of rapists, or would-be rapists. It has other effects than sterilization. Young men should be taught the dangers of promiscuous intercourse, and married men the results of families too large for the means of support and education.

Prolonged Intubation

Dr. T. W. Moore, Huntington, reported three cases of prolonged intubation. In the first case, a papilloma of the larynx, the tube was worn continuously for six months and the child was thoroughly comfortable for four or five weeks after its expulsion. Tracheotomy was then performed and an attempt to remove the growth was made many times, by tracheoscopy, without success. In the second case the tube was worn, with repeated removals and cleansing, for nine months, and finally when it was thought that the tube could be removed and it was left out for two days, the posterior wall of the larynx was found to be only a thickened membrane and had collapsed. Tracheotomy was performed and the child is still wearing the tracheal tube. In the third case, probably one of diphtheria, followed by edema of the glottis, the tube was worn six months with repeated removals for cleansing. When necessary to retain the tubes they should be frequently removed and cleansed and, if possible, a larger tube used each time. If the obstruction is due to papilloma it is better to do a tracheotomy and allow the child to wait until maturity before removing it, after which the growth rarely recurs, but it nearly always does if removed before maturity.

Other Papers Read

The following papers were also read: "Human Suggestibility or Fads, Fakes, and Fake Cures," by Dr. S. L. Jepson, Wheeling; "Atrophic Rhinitis," by Dr. G. A. Aschman, Wheeling; "Artificial Hyperemia as a Therapeutic Measure," by Dr. J. Howard Anderson, Marytown; "The Arithmetic of Milk Modification," by Drs. J. T. Thornton, Wheeling; "End-Results in the Fracture of Long Bones," by Dr. S. M. Mason, Clarksburg; "Colles' Fracture," by Dr. A. J. Noome, Wheeling; "Radiographic Diagnosis," by Dr. A. J. Quimby, Wheeling; "Appendicitis and the General Practitioner," by Dr. W. W. Golden, Elkins; "Serum Therapy," by Dr. H. W. Daniels; "Institutional Specialism," by Dr. T. L. Barber, Charleston; "Placenta Prævia," by Dr. Sharpe; "Brain Surgery, with Report of Cases," by Dr. F. LeMoyne Hupp, Wheeling; "Cranial Injuries and Report of a Case of Subdural Cyst," by Dr. R. H. Powell; "Differential Diagnosis of Gall-stones," by Dr. L. H. Forman.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Fifty-ninth Annual Session, held in Philadelphia, Sept. 27-30, 1909

(Continued from page 1507)

Ocular Manifestations Associated with Intracranial Lesions Complicating Aural Disease

Dr. S. MacCuen Smith, Philadelphia: Intracranial lesions complicating acute middle-ear disease are of comparative infrequency. We are still deficient in ability to locate the majority of lesions involving the interior of the skull. Ocular symptoms, with the exception of nystagmus, are of definite significance to the extent that they appear to develop only when otitis has involved the tissues within the cranial walls. The importance of the association of the eye with the ear through their nervous connection has been largely overlooked in the past. Papilledema is a valuable diagnostic symptom of meningitis, but is not always present. In every case in which there is suspicion of the existence of an intracranial lesion following or accompanying disease of the middle ear, an examination of the fundus should be made, even though the sight be perfect. In the majority of aural affections involving the interior of the skull, if we wait for the appearance of diagnostic symptoms, we run the risk of losing our patients. Eye symptoms, like blood examinations, should not influence the diagnosis of an intracranial lesion in the presence of other distinctive symptoms. In brain abscess, ocular symptoms may be absolutely lacking, or may occur so late as to make it impossible to wait for their appearance. In meningitis, ocular symptoms are frequently present, but variable. In extradural abscess and sinus thrombosis, there are no eye symptoms unless the condition is far advanced. Labyrinthitis usually has nystagmus as a constant symptom from the beginning of the inflammation.

DISCUSSION

Dr. S. Lewis Ziegler, Philadelphia: The interrelation of the eye and the ear is still a *terra incognita*. From the aurist's point of view the ocular symptoms arising from otic disease are seldom pathognomonic. The most important ocular manifestations are those occurring as sequelæ of pressure edema of the nerve head. Motor disturbances are of a more complex character and manifest themselves either in the form of nystagmus or as muscular palsies. Muscular palsies may occur during the height of the middle-ear inflammation, or may result from operative procedures. Temporary amaurosis may occur, usually in the homolateral eye, but sometimes in both eyes. The septic processes may originate grosser lesions, such as exophthalmos, orbital cellulitis, periorbital abscess or panophthalmitis.

Dr. H. F. Pyfer, Norristown: The literature is so filled with mention of eye conditions associated with ear diseases, that one would be led to believe that they are very closely associated, yet, although I make a habit of examining the eye-ground in all ear cases, I have been disappointed by failure to find associated lesions.

SYMPOSIUM ON RELATIONSHIP BETWEEN ACCESSORY SINUS AND OCULAR DISEASE

How May Inflammations of the Accessory Sinus of the Nose Occasion Inflammation of the Orbit and Eyeball?

Dr. Howard F. Hansell, Philadelphia: The anatomic and clinical investigations and the symposiums of medical societies in recent years testify to the great interest of the subject and have tended to bring together the ophthalmologist and the rhinologist to their mutual advantage and to the benefit of their patients. Disease of the orbit secondary to disease of the sinuses should not be confused with affections of both dependent on a common cause. Diseases of the accessory sinuses are communicated to the orbit by the orbital walls, by the veins and lymph channels and by continuity of tissue, and give rise to bony tumors, soft tumors composed of pus retained in the sac by the orbital periosteum and orbital cellulitis and abscess, either metastatic or direct, and other serious and fatal eye affections. Nasal obstruction is the cause of chronic conjunctivitis and superficial and deep keratitis. Persistent headache and asthenopia unrelieved by ocular treatment, is reflex in character, and due to nasal causes in many unsuspected cases. This should be borne in mind by the oculist, and instead of searching for changes in the refraction which cannot reasonably be regarded as the cause of the trouble, investigate the condition of the nasal mucous membrane and of the adjacent cavities.

Sphenoid and Ethmoid Sinuses in Relation to Ophthalmologic *Diseases*

Dr. D. Braden Kyle, Philadelphia, discussed the normal and anatomic relation of the sphenoid and ethmoid sinuses to the orbit; the importance of variation from the normal, first, as anatomic irregularities regarding size and position, and, second, pathologic, structural alterations; the significance of the *x*-ray as a means of diagnosis and prognosis; the importance of careful intranasal examination, and primary and secondary lesions.

Ocular Symptoms Caused by Intranasal Diseases

Dr. John F. Culp, Harrisburg: Many ocular symptoms of an obscure character are often caused by intranasal diseases in which intranasal pressure is a predominant factor. Removal of this pressure by nasal treatment, if not too long delayed, gives immediate and permanent relief.

Differential Diagnosis of Orbital Affections Due to Sinusitis, with Report of a Case of Thrombosis of the Cavernous Sinus

Dr. Wendell Reber, Philadelphia: There is more evidence to-day than ever before that anatomic and metastatic phases of orbital disturbance do not occur spontaneously, but are the direct result of previous rhinologic disease. These disturbances may be inflammatory or non-inflammatory. Of the former are periostitis, optic-nerve disorders, orbital cellulitis, orbital abscess and thrombosis of the cavernous sinus; of the latter are edema of the lids and chronic distention of the walls of the sinuses giving rise to crowding of the orbital contents. In cases of suspected sinus disease, exhaustive and repeated rhinologic examination should be made.

Discussion on Relation Between Orbital and Aural and Nasal Disease

Dr. William A. Hitschler, Philadelphia: While the diagnosis of sinus disease and its relation to ocular affections are often established with comparative ease, it frequently happens that this is a matter of great difficulty. The anatomic anomalies of the sinuses still further complicate the diagnosis. A right-sided optic neuritis may have its origin in the left sphenoid cavity or the left ethmoidal labyrinth. It is to be hoped that the *x*-rays may ultimately enable us to make a diagnosis with confidence.

Dr. S. D. Risley, Philadelphia: Years ago, general surgeons called the attention of medical men to the great danger to life of suppurative diseases about the nostrils and upper lip. The region of the orbit should also be included in this. In 1896, there occurred in my family a fatal case of thrombosis of the cavernous sinus due to a pimple on the malar region. At that time I searched for an explanation of the edema of the eyelids which occurred in that case, but found only a slight reference to it, and that in Fuch's book. Since then, many cases of this affection have been reported. Before undertaking surgical interference in the region drained by the ophthalmic vein into the cavernous sinus, we should always have a picture of the possibility of thrombosis of this sinus in mind. Many of the patients with acute middle-ear disease will do well if treated by rest in bed, and such drugs as aconite, belladonna and salines, and in this way surgical interference may be avoided in cases in which it seemed at first to be necessary.

Dr. W. Campbell Posey, Philadelphia: A careful ophthalmoscopic examination is of importance in sinusitis of the ethmoidal and sphenoidal cells. I believe that the ophthalmologist treats a number of cases of sinusitis in the belief that he is dealing with errors of refraction. The relief from atropin in such cases is not due to putting the ciliary muscle at rest, but to drying up the secretions in the sinuses. The fact that in a case of orbital cellulitis the nasal examination is negative should not be regarded as evidence that the trouble is not due to sinusitis. One should never undertake operation in these cases unless he is prepared to enter the sinuses.

Dr. Ross H. Skillern, Philadelphia: The complications from the sinuses result chiefly from the ethmoid and the sphenoid. The former are mild and the latter severe in their manifestations. There is a form of ethmoiditis characterized by the formation of polypoid masses in the ethmoid cells which causes more mild eye symptoms than all other sinus troubles together.

Dr. S. Lewis Ziegler, Philadelphia: I believe the antrum of Highmore furnishes more disturbance than the other sinuses. I am not sure that it is due to infection, and am inclining to the belief that some chemical irritant keeps up the inflammation in the eye.

Dr. E. B. Heckel, Pittsburg: In a case recently under my observation in which there was marked proptosis of the left eye, it was only after cooperation with others, including the radiographer, that a diagnosis of gumma could be made by exclusion. Treatment on this basis resulted in complete recovery.

Dr. S. MacCuen Smith, Philadelphia: During the early stages of these sinus troubles good results are often obtained and complications which require surgical interference avoided if the patient is put to bed and treated by suitable remedies.

Dr. George W. Johnston, Pittsburg: More is expected of the *x*-rays in these cases than should be. They have strict limitations. It is impossible to state when a sinus is obscured whether this is due to an edematous membrane or pus, or both. However, if the picture is made with the patient in the erect posture, the level of the fluid, if due to pus, will be distinctly seen. The diagnosis is not made by a single examination, but by comparison at different examinations, and, unless the radiograms are made under identical conditions, comparisons cannot be made.

Psychoses Associated with Eyestrain

Dr. S. D. Risley, Philadelphia: I have observed certain phases of mental disturbances associated with eyestrain—in one instance insanity, in others hallucinations, mental delusions and fear of insanity or loss of mental control. In all the patients entire relief followed the correction of the ocular strain which was due to defects of refraction, anisometropia and difficulty in maintaining binocular vision because of some muscular anomaly. In one of the patients, a high degree of exophoria made constant, strained attention necessary to avoid crossed diplopia; in three of the patients the fault was hyperphoria which upset the binocular balance. I desire to call attention to the great difficulty presented, in the present state of our knowledge of brain physiology, in reaching any satisfying explanation of the manner in which strain on a group of muscles innervated by the oculomotor should set up a symptom-complex essentially psychic in nature. I suggest that the contiguity of the at present accepted location of the oculomotor nucleus, to the primary visual cortex might, through the influence of the vasomotor nerves of the sympathetic, lead to vascular changes in the visual cortex, or that exhaustion or irritation might disturb the transmission of visual perceptions from the primary to the secondary or higher visual, or apperception areas, and so disturb the concrete mental conception of visual image.

DISCUSSION

Dr. Joseph Willetts, Pittsburg: The eye, as associated with functional psychoses affecting the adult of middle life, is, in my opinion, a subject paramount in importance to any other subject in ophthalmology. I have long believed that the functional psychoses are primarily dependent on underlying, unrecognized natural causes. The almost magical disappearance of isolated groups of symptoms in distant organs after the correction of refraction errors and adjustment of muscle imbalances of the eye seem to me to be due to direct saving of nerve impulses which were being expended in unsuccessful attempts to compensate. The leak has been stopped and other organs get their normal supply.

Dr. C. K. Mills, Philadelphia: We must never make the mistake of supposing that the correction of the ocular errors will of itself absolutely cure these patients. It may, as in Dr. Risley's cases, so relieve the pressing conditions as to put the patients in good shape.

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Dr. T. W. Moore, Huntington, reported three cases of prolonged intubation. In the first case, a papilloma of the larynx, the tube was worn continuously for six months and the child was thoroughly comfortable for four or five weeks after its expulsion. Tracheotomy was then performed and an attempt to remove the growth was made many times, by tracheoscopy, without success. In the second case the tube was worn, with repeated removals and cleansing, for nine months, and finally when it was thought that the tube could be removed and it was left out for two days, the posterior wall of the larynx was found to be only a thickened membrane and had collapsed. Tracheotomy was performed and the child is still wearing the tracheal tube. In the third case, probably one of diphtheria, followed by edema of the glottis, the tube was worn six months with repeated removals for cleansing. When necessary to retain the tubes they should be frequently removed and cleansed and, if possible, a larger tube used each time. If the obstruction is due to papilloma it is better to do a tracheotomy and allow the child to wait until maturity before removing it, after which the growth rarely recurs, but it nearly always does if removed before maturity.

Other Papers Read

The following papers were also read: "Human Suggestibility or Fads, Fakes, and Fake Cures," by Dr. S. L. Jepson, Wheeling; "Atrophic Rhinitis," by Dr. G. A. Aschman, Wheeling; "Artificial Hyperemia as a Therapeutic Measure," by Dr. J. Howard Anderson, Marytown; "The Arithmetic of Milk Modification," by Drs. J. T. Thornton, Wheeling; "End-Results in the Fracture of Long Bones,". by Dr. S. M. Mason, Clarksburg; "Colles' Fracture," by Dr. A. J. Noome, Wheeling; "Radiographic Diagnosis," by Dr. A. J. Quimby, Wheeling; "Appendicitis and the General Practitioner," by Dr. W. W. Golden, Elkins; "Serum Therapy," by Dr. H. W. Daniels; "Institutional Specialism," by Dr. T. L. Barber, Charleston; "Placenta Prævia," by Dr. Sharpe; "Brain Surgery, with Report of Cases," by Dr. F. LeMoyne Hupp, Wheeling; "Cranial Injuries and Report of a Case of Subdural Cyst," by Dr. R. H. Powell; "Differential Diagnosis of Gall-stones," by Dr. L. H. Forman.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Fifty-ninth Annual Session, held in Philadelphia, Sept. 27-30, 1909

(Continued from page 1507)

Ocular Manifestations Associated with Intracranial Lesions Complicating Aural Disease

Dr. S. MacCuen Smith, Philadelphia: Intracranial lesions complicating acute middle-ear disease are of comparative infrequency. We are still deficient in ability to locate the majority of lesions involving the interior of the skull. Ocular symptoms, with the exception of nystagmus, are of definite significance to the extent that they appear to develop only when otitis has involved the tissues within the cranial walls. The importance of the association of the eye with the ear through their nervous connection has been largely overlooked in the past. Papilledema is a valuable diagnostic symptom of meningitis, but is not always present. In every case in which there is suspicion of the existence of an intracranial lesion following or accompanying disease of the middle ear, an examination of the fundus should be made, even though the sight be perfect. In the majority of aural affections involving the interior of the skull, if we wait for the appearance of diagnostic symptoms, we run the risk of losing our patients. Eye symptoms, like blood examinations, should not influence the diagnosis of an intracranial lesion in the presence of other distinctive symptoms. In brain abscess, ocular symptoms may be absolutely lacking, or may occur so late as to make it impossible to wait for their appearance. In meningitis, ocular symptoms are frequently present, but variable. In extradural abscess and sinus thrombosis, there are no eye symptoms unless the condition is far advanced. Labyrinthitis usually has nystagmus as a constant symptom from the beginning of the inflammation.

DISCUSSION

Dr. S. Lewis Ziegler, Philadelphia: The interrelation of the eye and the ear is still a *terra incognita*. From the aurist's point of view the ocular symptoms arising from otic disease are seldom pathognomonic. The most important ocular manifestations are those occurring as sequelæ of pressure edema of the nerve head. Motor disturbances are of a more complex character and manifest themselves either in the form of nystagmus or as muscular palsies. Muscular palsies may occur during the height of the middle-ear inflammation, or may result from operative procedures. Temporary amaurosis may occur, usually in the homolateral eye, but sometimes in both eyes. The septic processes may originate grosser lesions, such as exophthalmos, orbital cellulitis, periorbital abscess or panophthalmitis.

Dr. H. F. Pyfer, Norristown: The literature is so filled with mention of eye conditions associated with ear diseases, that one would be led to believe that they are very closely associated, yet, although I make a habit of examining the eyeground in all ear cases, I have been disappointed by failure to find associated lesions.

SYMPOSIUM ON RELATIONSHIP BETWEEN ACCESSORY SINUS AND OCULAR DISEASE

How May Inflammations of the Accessory Sinus of the Nose Occasion Inflammation of the Orbit and Eyeball?

Dr. Howard F. Hansell, Philadelphia: The anatomic and clinical investigations and the symposiums of medical societies in recent years testify to the great interest of the subject and have tended to bring together the ophthalmologist and the rhinologist to their mutual advantage and to the benefit of their patients. Disease of the orbit secondary to disease of the sinuses should not be confused with affections of both dependent on a common cause. Diseases of the accessory sinuses are communicated to the orbit by the orbital walls, by the veins and lymph channels and by continuity of tissue, and give rise to bony tumors, soft tumors composed of pus retained in the sac by the orbital periosteum and orbital cellulitis and abscess, either metastatic or direct, and other serious and fatal eye affections. Nasal obstruction is the cause of chronic conjunctivitis and superficial and deep keratitis. Persistent headache and asthenopia unrelieved by ocular treatment, is reflex in character, and due to nasal causes in many dure is resorted to the better the chance of recovery. Mastoditis in diabetes is almost characteristic, in that it often occurs without any marked signs of trouble in the tympanum, beginning apparently as a primary osteitis of the mastoid, and also that the destruction of bone takes place more rapidly and more extensively than in other cases. Whether the destruction of the bone in the mastoid be rapid or slow, the acute inflammatory phenomena are apt to be absent until rather late. This is an added indication for early operation. The danger of anesthesia is greater in these cases, and, following ether or chloroform, there may be dyspnea, which usually presages a fatal termination. Speed in operating and short anesthesia are extremely important factors. The removal of the involved bone must be thorough. It is better not to close the external wound by suture.

Restoration of the Upper Eyelid by Skin Graft, with Report of Three Cases

Dr. Edward B. Heckel, Pittsburg: Skin grafting in these cases is rarely done and the technic is usually faulty. In my cases I used Thiersch grafts for the arm. The upper lid was drawn down and stitched to the cheek to increase its surface. The graft taken was three times the area of the surface to be covered. After contraction occurred the cosmetic result was excellent.

DISCUSSION

Dr. G. B. Jobson, Jr., Franklin: I believe that it is better to use grafts without pedicles wherever possible. Local is preferable to general anesthesia. I use 2 per cent. cocain with 1 to 2,000 adrenalin, injecting it into the lid. Hemorrhage from the denuded lid must be controlled absolutely or the graft will not adhere. The graft must be two or three times the size of the area to be covered.

Dr. William Campbell Posey, Philadelphia: I would much rather use a pedicle flap than Thiersch grafts. The pedicle flap is better nourished and, if carefully planned and massage is used, the cosmetic result is good. I prefer local anesthesia, but use 2 per cent. solution of novocain, as it is less toxic than cocain. I do not think it is necessary to have every bleeding point controlled. The quicker one gets through with the operation the more certainly will healing occur.

Isolated Paralysis of the External Rectus in Acute Otitis Media

Dr. W. Hardin Sears, Huntingdon: This condition has been reported by a number of observers. In one series of 257 cases of paralysis of the external rectus it was due to otitis media in 2 cases. In a case of otitis media which I observed, paralysis of the external rectus occurred coincidently with acute articular rheumatism. Complete recovery followed the use of sodium salicylate and pilocarpin.

DISCUSSION

Dr. T. B. Schneideman, Philadelphia: Paralysis of the sixth nerve is a rare complication of otitis, and is most frequent between 5 and 15 years of age. One bilateral case has been reported, but in this case the ear distress was bilateral. The mortality in collected cases has been 16 per cent. The most certain preventive measure is early and adequate paracentesis with proper drainage.

(To be continued)

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Thirty-fifth Annual Meeting, held at St. Louis, Oct. 12-14, 1909

(Continued from page 1506)

Surgery of the Gall-Bladder

Dr. W. D. Haines, Cincinnati: In *cholecystectomy*, the first essential is to secure the cystic duct and artery in the grasp of a long hemostat placed near the junction of the cystic with the hepatic duct. Another hemostat is placed a short distance before the first and the cystic duct and vessel are divided. The first hemostat will control hemorrhage and the second will serve as a retractor in the succeeding steps of the operation. Incision of the peritoneum for stripping up the gall-bladder should be made in the fold where the peritoneum is reflected from the gall-bladder to the liver, in order to preserve sufficient tissue to cover the raw surface of the liver. If unusual difficulties present themselves in ligating the cystic artery, the hemostat may be left in place for forty-eight hours. The denuded surface of the liver is then covered by sutures of divided peritoneum and a rubber tissue-covered drain placed in the bottom of the wound. A large vein, sometimes mistaken for the portal vein, is occasionally found crossing the ducts, and, if present, is almost invariably injured in the course of the removal of the gall-bladder. It should be clamped, doubly ligated, cut and the end retracted, as hemorrhage in the bottom of the wound is difficult to control, causes delay and adds to the shock of the operation. In closing the abdomen the peritoneum and posterior sheath of the rectus are included in the first tier by a button-hole or interrupted suture. Two or three figure-of-eight silkworm-gut sutures should be placed so as to include the muscle, the fascia and skin, but are not tied until the anterior fascia is closed by continuous catgut.

The Latent Gall-Stone

Dr. C. N. Smith, Toledo, Ohio: In the light of our present knowledge of the initial symptoms of gall-stone disease and of the slight or characteristic symptoms of latent gall-stone, we must believe that in every case they have produced, do now produce and will continue to produce a certain train of symptoms so distinctive in nature that a positive diagnosis depends only on a correct interpretation of them. The three symptoms which are mentioned almost invariably when cholelithiasis is in consideration are colic, jaundice and putty-colored stools. Every one of these symptoms is a late or terminal event occurring after a more or less prolonged period of occupancy of the gall-bladder by the stone, during which period distinctive and diagnostic symptoms are present, and should be correctly interpreted. One of the most important advances in the surgical treatment of diseases in the upper abdomen accrues from the recognition of the fact that 80 per cent. of the cases of chronic pancreatitis are the result of gall-stones and the sequentially occurring infections of the biliary tract. Medical and hydropathic treatment, both confessedly powerless in so far as absorption or removal of the concretion is concerned, aim only at the control of the symptoms through abatement of the infection. Surgery, advancing on the limited possibilities of medicine, by one safe and eminently successful procedure, removes simultaneously the causal gall-stones and the resultant infection.

Latent Duodenal and Gastric Ulcer

Dr. Willard J. Stone, Toledo, Ohio: Duodenal and gastric ulcers are more common than supposed. Most of them are masked under the symptoms and diagnosis of functional hyperchlorhydria. The acute forms, with severe recurring hemorrhages in certain cases may demand surgical interference, although such patients are in an extremely critical condition and the surgical risk extremely hazardous. Many patients recover under medical care. Perforation demands, first of all, early diagnosis. Fully 60 per cent. of these cases are wrongly diagnosed, as appendicitis, gall-bladder, intestinal obstruction or acute peritonitis, not stating the cause. The earlier the interference the better the results. Goldstücker, who has recently reviewed 236 cases of perforation, found that among patients operated on within the first 12 hours the mortality was 29 per cent., after 12 hours the mortality was 54 per cent. Robson found among 155 cases of perforating ulcer in the literature to 1907, that the mortality among the patients operated on during the first 24 hours was 37.7 per cent., after 24 hours the mortality was 85 per cent. In about one-fourth of the cases in the literature of perforating duodenal ulcer no previous dyspeptic symptoms suggestive of the condition had existed. Fully 75 per cent. of uncomplicated ulcers of the duodenum or stomach are cured by medical means, the remaining 25 per cent. become chronic and may be classified under: (1) Chronic ulcer with active symptoms, such as pyloric spasm, scar contraction, perigastric adhesions or malignant transformation; (2) chronic ulcer with latent symptoms, which may be defined as that type giving rise to periodic attacks of distress at the height or end of gastric digestion

Conservative Surgery in Ocular Injuries

DR. L. WEBSTER FOX, Philadelphia: The treatment of ocular injuries must be approached from a standpoint different from that assumed in injuries elsewhere in the body. This is due to the complexity of the tissues found within a small compass rendering probable the injury to many dissimilar tissues at the same time. Also, traumatism to one eye puts on the surgeon the responsibility of maintaining the integrity of the other eye. The treatment of injuries to the eye is gradually being revolutionized, and better results will be obtained from such injuries in industrial centers where eye injuries are common and the pendulum is gradually swinging toward the side of conservatism rather than that of hasty enucleation. The teaching that the prognosis of injuries within a zone one-fourth of an inch wide encircling the cornea is necessarily grave, has not been my experience. I have found that in incised wounds of the eyeball, even in the ciliary region, the ciliary involvement is often minimized or *nil*, provided the incision penetrates between the ciliary processes, while a diagonal cut increases the ciliary involvement by extending directly through one or more of the ciliary processes. After injuries to the eyeball, in addition to local antiphlogistic applications, sodium salicylate internally is of great value. A patient can take daily a number of grains equal to the number of pounds body weight. I have done over 400 Mule's operations without a single case of sympathetic ophthalmia following the operation.

DISCUSSION

DR. EDWARD JACKSON, Denver, Colo. (by invitation): I was early impressed with the old statement about the danger of small penetrating wounds in the ciliary region as regards the danger of producing sympathetic ophthalmia, so that I have, so far as possible, sought to give free drainage to penetrating wounds in this region. In extracting foreign bodies I have tried to remove with the foreign body the injured tissue adjoining. In magnet extraction I have made as free an incision as possible. I have never had reason to regret preserving or attempting to preserve an eyeball. I have also learned by experience, rather than from the literature, that minute foreign bodies can be left in the cornea and in the tissues back of the cornea without insuring the loss of the eye.

DR. W. B. WEIDLER, New York: I have had good results from the use of large doses of sodium salicylate. I always work to the physiologic limit.

DR. S. D. RISLEY, Philadelphia: I am sure that many ophthalmologists save eyeballs now which in former years they made no attempt to save. I have in a measure lost my dread of punctured wounds in the ciliary region. It is folly to try to save an eyeball which contains copper, brass or lead. These substances may be surgically pure in the sense of infection, but they undergo certain chemical changes which are deleterious to the eye, and my experience is that I have had to remove such eyes sooner or later. The foreign bodies that we remove with magnets are not the most serious.

DR. G. E. DE SCHWEINITZ, Philadelphia: Injuries in the ciliary region are not quite so dangerous as we have been led to think; they are no more dangerous than injuries in some other parts of the eye. Whether an eye can be saved or not depends on the character of the injury. We are probably saving more eyes now than formerly. I have been using calomel combined with salicylate of sodium recently, with very good results. By large doses of sodium salicylate the tendency to sympathetic ophthalmia is distinctly lessened. I wish also to commend the use of conjunctival flaps for preventing infection of wounds at the sclerocorneal region.

DR. J. F. KLINEDINST, York: I do not remove so many eyes now as I did ten or fifteen years ago. I am able to preserve them by the use of sodium salicylate and simple external disinfectants; also, by using dionin and atropin. I have great faith in sodium salicylate in injuries of the ciliary region.

Refracting Opticians

DR. JAMES THORINGTON, Philadelphia, reviewed the efforts made by opticians in various states to obtain legislation which would license them to do refraction, and summarized the laws to this effect already existing in a number of states. He also dealt in detail with the bill which was defeated in the last session of the legislature in Pennsylvania. He set forth reasons why such legislation should not be enacted. The various "schools of optometry" were discussed and their defects pointed out.

Brief History of the Treatment of Stammering, with Some Suggestion as to Modern Methods

DR. G. HUDSON MAKUEN, Philadelphia: The treatment of stammering, although formerly in the hands of the medical profession, is now given over largely to charlatans and semi-professional empirics. This treatment, conducted on a purely commercial basis, is not only unscientific, but also, in the great majority of instances, wholly inefficacious. A certain small percentage of stammerers will regain freedom of speech without any special assistance whatsoever, and these are the only ones whom the treatment referred to can possibly reach, while in the majority of the severer cases, the patients are not only not benefited by it, but are made distinctly worse by having their confidence shaken and their hope destroyed. The unscientific treatment of the charlatan consists largely in an attempt to cure the affection by a kind of short-cut, psychotherapeutic method, ignoring almost entirely the physical habits on which the affection to a large extent depends. The cures are only temporary, and the stammerer is worse off than he was before. Stammering is a psychophysical affection, and any scientific treatment of it must take into account its dual nature. The modern scientific treatment of stammering, therefore, recognizes the psychophysical nature of the affection. It aims to supplant the faulty habits of speech with correct ones, and at the same time to meet the requirements of the psychical condition.

DISCUSSION

DR. E. KENYON, Chicago (by invitation): Stammering is a social disorder only; the stammerer can talk to himself indefinitely without stammering, but stammers only when talking to others. All the problems relating to stammering are medical problems and can be solved only by the physician. The mother of a stammering child in the smaller communities is unfortunate in not having any one to go to but the family physician, whose advice in this respect is often unfortunate, to say the least. Every physician should know certain basal facts so that his advice may not do harm. We will supplant the methods of the flamboyant stammering schools only by making our methods more effective than theirs. In the larger cities there should be stammering classes in the public schools presided over by medical men.

DR. D. B. KYLE, Philadelphia: Stammering is only one form of speech defect. Whether it is a local or a mental one is a question. The habit of stammering is mental. Several years ago I showed two boys, previously not stammerers, who acquired the habit from a third boy. The proper treatment of stammering requires individual attention. If four or five stammerers are put together for treatment, not much can be accomplished.

DR. E. BOSWORTH MCCREADY, Pittsburg: Dr. Makuen has done more than any other man in this country to take the treatment of speech defects out of the hands of the charlatan. I believe that the tendency to stutter is present in the child from the time he begins to speak. In a recent study of 26,000 school children in Pittsburg, I found that over 1 per cent. were stutterers. The problem of taking care of so many is a serious one. It resolves itself into a question of special classes or special schools.

DR. G. HUDSON MAKUEN: There are marked exceptions to the rule that stammerers do not stammer when they talk to themselves. Many a stammerer does not know that he stammers until he is told by some one. A majority of children with speech defects are wholly unconscious of the defect. Patients are cured of stammering only when they have been so trained that they can talk more easily without than with stammering.

Mastoiditis in Diabetes

DR. B. H. POTTS, Philadelphia: Although there is decidedly more risk in operating on diabetic than non-diabetic patients, when it becomes necessary to operate, the earlier the procedure is resorted to the better the chance of recovery. Mastoditis in diabetes is almost characteristic, in that it often occurs without any marked signs of trouble in the tympanum, beginning apparently as a primary osteitis of the mastoid, and also that the destruction of bone takes place more rapidly and more extensively than in other cases. Whether the destruction of the bone in the mastoid be rapid or slow, the acute inflammatory phenomena are apt to be absent until rather late. This is an added indication for early operation. The danger of anesthesia is greater in these cases, and, following ether or chloroform, there may be dyspnea, which usually presages a fatal termination. Speed in operating and short anesthesia are extremely important factors. The removal of the involved bone must be thorough. It is better not to close the external wound by suture.

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Discussion on Gall-Bladder and Gastric Surgery

Dr. A. J. Ochsner, Chicago: Our attention has been directed constantly to the fact that we must look for gall-stones, without complications, without the impaction of the stones in the ducts, whenever a patient complains of gastric symptoms, and that we can count on an early diagnosis in the majority of cases from now on. The mortality following operations for the removal of gall-stones is small now as compared with what it was six or eight years ago. At that time patients were operated on who were suffering from cholangitis. Another reason why the mortality is small now, is that fewer harmful things are done during the operation. The gall-stones are simply removed and drainage established.

Dr. R. A. Bate, Louisville: If we go back to the origin of gall-stones, there is absolutely no reason why medicine should not remove every gall-stone which is composed of 90 per cent. cholesterin. If the gall-stones are differentiated, those containing bilirubin calcium in greater proportion than 10 per cent. may require surgical interference. Gall-stones are formed in the gall-bladder and in the ducts in very much the same way as mucin, and when stagnation of bile occurs the mucin causes putrefaction of the bile, and this in turn permits the micro-organisms which are not very hard to overcome, to pass up. and wherever cholesterin is deposited by the lecithin being broken up, the lecithin holds the cholesterin in solution. There are three factors to consider in connection with gall-stones: Microbes of various kinds, alkalies, and the acids.

Dr. H. Tuholske, St. Louis: A fairly large personal experience has taught me the important lesson that a gall-bladder with stones in it can be relieved when the stones are mechanically taken out. I have spent considerable time at the great Mecca of the gall-stone sufferers, Carlsbad. I have heard people say that there are enough gall-stones passed in Carlsbad to pave the streets with them. I have come in contact with the best men of the profession there, have talked with them about gall-stone cases, and I am sorry for any man or woman who has a gall-stone that goes traveling and leaves its comfortable little bed in the gall-bladder, for then trouble is likely to begin. There is danger of lodgement in the narrow duct. There is danger of ulceration and perforation. Then come all the obstructive symptoms the adhesions which muddle the picture and produce a serious condition. When the gall-bladder is in a fair condition, the dangers incident to the removal of the stone or stones is not great. The presence of gall-stones not infrequently causes a change in the epithelium of the gall-bladder, and we may find the typhoid bacillus as a nucleus in the gall-bladder. All things considered, when a diagnosis of gall-stones is made, it is better for the individual to have the stones taken out.

Dr. Daniel N. Eisendrath, Chicago: While olive oil has its function, there are cases in which, either through some condition of the patient or complication, or some voluntary objection to the operation, the patient will not consent to operation. Such patients are benefited temporarily by olive oil and the Carlsbad waters; but let there be obstruction produced by the gall-stones, or let there be retention of secretion, hyperemia occurs and all the pathologic processes incident to obstruction. What happens? There are cases of gall-stones in which the common duct stone becomes impacted, stays for a few days or a few weeks, and goes back again. Fenger called attention to this under the head of intermittent jaundice in connection with common duct stones. Carcinoma not infrequently develops from the constant mechanical irritation of a gall-stone or gall-stones. The only reliable and satisfactory treatment for gall-stones is to remove them.

Dr. J. Henry Carstens, Detroit: It is an outrage for a general practitioner, or for a specialist in gastrointestinal diseases to treat patients month after month and year after year in different ways, without making a correct diagnosis. It would redound to the credit of such men to say, when they are in doubt: "I do not know whether you have duodenal ulcer or ulcer of the stomach, and I think you ought to go to an abdominal surgeon, who can make a small opening and find out whether you have gall-stones or not. If you have, they can be taken out. On the other hand, if it is an ulcer, it can be excised, the opening closed and a cure effected."

Dr. Thomas B. Noble, Indianapolis: Several years ago I did a pelvic operation which necessitated a suprapubic incision. During this operation I discovered two stones the size of marbles in the free gall-bladder. Directly thereafter that woman was given phosphate of sodium for one year. For another year she took olive oil three times a day, after which she was seized with intense pain due to a stone blocking the cystic duct, and an infected gall-bladder. I had to do an emergency operation, and I found these stones of the same size and the same character they were two years previously. Previous to that time I was not very much in favor of medical treatment in cases of preformed stones, and I am less so now.

Dr. Richard A. Barr, Nashville: Olive oil must be brought in contact with the gall-stones to do any good, and one may as well rub olive oil on the outside of the abdomen as to give it internally, so far as any effect it would have in preformed gall-stones is concerned.

Dr. M. C. McGannon, Nashville: A member of the medical profession came under my observation two years ago as a patient who had had persistent jaundice for three months. It was not accompanied by pain. He was quite yellow at the time I saw him. He had lost flesh, and it was thought that he might be suffering from cancer. A diagnosis of cancer had been made by a good internist. When the man came under observation I was willing to agree with the internist in the supposition that the condition was cancer, but as he was a physician I put this argument before him: "If this is cancer, you will certainly die from its effects. If it is not cancer, and you submit to operation, we may be able to give you relief. If we do not give you relief, we at least will do you no harm. We will not shorten your life with an exploratory incision, to determine the character of the trouble." The operation was consented to and performed. The gall-bladder was found to be completely shrunken, the duodenum involved in a mass of adhesions, binding it down into a knuckle formation about the gall-bladder and liver. The breaking up of the adhesions was effected with a great deal of difficulty. The stomach was opened in the dissection, but closed at the time. The breaking up of the adhesions relieved the condition. The gall-bladder was removed, and to-day that man, after four years, is able to ride horse-back and is practicing medicine in the state of Tennessee.

(To be continued)

Medicolegal

Physician's Insurance Not Proper to Be Shown in Malpractice Case—Liability of Administerer of X-Ray Treatment

The Kansas City Court of Appeals says that the plaintiff in the malpractice case of Gore vs. Brockman (119 S. W. R. 1082) alleged that in the defendant's treatment of her with the *x*-ray, for hardening of the right lobe of the liver, the right side of the abdomen for a space of more than one foot in diameter was blistered and became raw and sore, etc. She recovered a judgment for $3,500, but that is reversed, and a new trial ordered, account of errors in the trial.

First of all, the court holds that it was improper and highly prejudicial to ask the defendant, on cross-examination, if he did not, on or about the time when the plaintiff's condition became serious, take out physician's protective insurance to guard against damages that might accrue from this or any other suit for malpractice. The issue on trial was the alleged negligent treatment of the plaintiff by the defendant as her physician, and indemnity insurance would not aid in determining that question; but, more than that, the tendency and effect was to withdraw the real defendant from the consideration of the jury and to substitute for him an insurance company. A litigant has a right to his own personality, and the opposing party has no right to have the consideration of his claim influenced or measured by any other standard, so far as individuality is concerned, than that afforded by the party of whom he complains. He cannot ask unliquidated damages of a good man who may have injured him and then substitute a bad man at the trial.

Again, the defendant was asked if he had not conveyed property. As asked, the question was improper. It would, however, have been permissible to ask him on cross-examination if he had conveyed his property to avoid payment of damages he may have considered he had incurred.

An instruction given the jury submitted, among other things, whether *x*-ray treatment "was in accordance with the ordinary and established practice of the medical profession for the treatment of the disease from which the plaintiff was suffering." The proper submission of that question, as raised by the petition, was whether an ordinary skilful and prudent physician would have adopted that treatment in the circumstances which confronted the defendant when he applied it.

Of the instructions asked by the defendant, two were refused which informed the jury that the defendant as a physician should not be held as an insurer of the success of treatment "by the *x*-ray process," or that it would not be attended by unexpected results, and that he was only required to have the necessary learning and experience to give the treatment in a careful and prudent manner. These instructions were proper, and should be given on another trial, unless the issue was clearly tendered that there was negligence or unskilfulness in prescribing such treatment at all. If that was an issue, then the instructions should also cover that phase, for a physician might be fully equipped in learning, skill, and care to use the *x*-ray, and yet use it in a case where a prudent physician would not have adopted it as a remedy. For instance, a surgeon might possess great learning and skill, and when performing a certain operation might be as careful as possible, yet it might be that a prudent and skilful man of that profession, in the same circumstances and conditions, would not have performed such an operation.

On the subject of direction to the jury in cases of this character, it may be stated to be the law that a physician is not to be held for honest error of judgment. He is only required to give his patient his diligent attention and best thought, and in prescribing, administering, or applying treatment, to use that care, skill and prudence that an ordinarily capable physician would use in the same or like situation and condition or circumstances. Otherwise, in view of the fallibility of all men, we would require of him more than can justly be demanded.

The issue which one should tender who seeks to hold a physician liable in damages for malpractice is incompetency or negligence, or both. As to which of these, or whether both, should be charged, must, of course, depend on the case, but, at all events, the charge relied on should be distinctly made so that confusion may not result.

Liability of Publishers of Changed or False "Patent Medicine" Testimonials—Admissibility of Evidence of Analysis, Etc.

The Court of Appeals of Kentucky says, in Foster-Milburn Co. vs. Chinn (120 S. W. R. 364), an action brought by the latter party to recover damages for a wrongful publication of an alleged testimonial of Doan's Kidney Pills, in "Doan's Directory," that it is a fraud on the public to publish indorsements of public men in publications of this character which are not genuine. A man has the right to complain when he is published in a directory having a circulation of 8,000,000 copies, as indorsing a "patent medicine" he has never seen. To publish with the forged letter his picture and a sketch of him is to give weight to the letter. It has become a custom in the press to publish the pictures of prominent public men; but it is a very different thing for a manufacturer to use without authority such a man's picture to advertise his goods in connection with a forged letter indorsing the goods.

Words which are written or printed are actionable when they subject a person to disgrace, ridicule, odium, or contempt in the estimation of his friends and acquaintances or the public. How far the publication in question would subject a person to ridicule or contempt or make him odious is a question for the jury. While there is some conflict in the authorities, this court concurs with those holding that a person is entitled to the right of privacy as to his picture, and that the publication of the picture of a person without his consent, as a part of an advertisement for the purpose of exploiting the publisher's business, is a violation of the right of privacy, and entitles him to recover without proof of special damages.

The plaintiff recovered a judgment in this case for $2,500 damages, but that is reversed, and the cause remanded for a new trial, on account of an erroneous admission of certain evidence.

A physician, who was a member of the American Medical Association, was allowed to testify that an officer of the association had made an analysis of Doan's Kidney Pills; that he had seen a report of the analysis, and that it showed that the pills were composed of certain ingredients; that a pill thus composed was harmless, but of no value, and that Doan's Kidney Pills were a fraud. This evidence was incompetent, as hearsay, though a witness who has made a chemical analysis himself may testify as to the analysis which he has made. The contents of the pills could only be proven by some person who knew the facts.

It was also error, the court holds, to permit physicians to testify as to the repute in which the medical profession holds those whose names appear in patent medicine advertisements, the plaintiff not being a physician, and the subject not being one for expert testimony, because the jury, when the facts were shown, could judge of this as intelligently as the witnesses. But it was proper to allow it to be shown that there was a scale of prices paid for cards of this sort, as this would tend to show that persons who knew of the custom of paying for such cards might conclude that the plaintiff had sold his signature.

Conducting of So-called "Maternity Hospital" the Maintenance of a Nuisance

The Supreme Court of Oregon says that in the case of State vs. Atwood and another (102 Pac. R. 295), the defendants, who were charged with equipping and maintaining a "maternity hospital" with the intent of unlawfully producing abortions, were convicted, under the "nuisance statute" of that state, of the crime of committing an act grossly disturbing the public peace and health, openly outraging public decency, and injurious to public morals. The conviction is affirmed by the rule invoked where the reviewing court is evenly divided, as was the supreme court here with regard to the statute applying.

In what may be termed the prevailing opinion in this case it is stated that it was not necessary to allege that the acts of the defendants in producing abortions were done in cases where the operations or procurements were unnecessary. The offense related to a business or condition. If there were a statute authorizing the procuring of abortions in certain cases, it might be necessary, in an indictment in such a case as this, to negative such exceptions, but Oregon has no such statute. Or if this were a prosecution under a criminal statute, and in the description of the offense certain exceptions were made, then such exceptions must be negatived in the indictment.

But the business of wrongfully and unlawfully committing and producing abortions can have no reference to, nor include instances in, the legitimate practice of medicine, in which an abortion may be necessary and lawful, and the charge of this offense need not negative such cases. The charge here was that the house was maintained with the intent and purpose of wilfully, wrongfully and unlawfully producing abortions. It was not the purpose of the indictment to charge that the intention of the defendants was to commit the crime of killing by producing abortions under section 1748, but that they were conducting a business that openly outraged the public decency and was injurious to public morals, and the business with which the defendants were charged clearly came within those terms.

The conclusion is that the acts charged against the defendants were not lawful, neither authorized by law, nor morally right, but constituted a nuisance per se (in and of themselves), and therefore need not be shown to be performed in a public place, and that the charges in the indictment were sufficient to constitute a nuisance under the "nuisance statute."

Current Medical Literature

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

October 23

1 Ehrlich's Side-Chain Theory of Immunity. J. W. McLaughlin, Austin, Tex.
2 Empyema of the Antrum of Highmore; Its Relation to Other Diseases, and Its Treatment. W. Freudenthal, New York.
3 Rigidity of the Chest Muscles as a Sign of Involvement of the Pulmonary Parenchyma. F. M. Pottenger, Monrovia, Cal.
4 Therapeutic Value of Antigonococcus Serum and Gonococcus Bacterins. G. K. Swinburne, New York.
5 *Ethyl Chlorid as a General Anesthetic for Operations in the Throat as Especially Applied to Children. E. M. Sill, New York.
6 Interstitial Keratitis in Acquired Syphilis. S. L. Phillips, Savannah, Ga.
7 *A New Physical Sign. F. M. Pottenger, Monrovia, Cal.

5. **Ethyl Chlorid as a General Anesthetic.**—Sill regards ethyl chlorid as a comparatively safe and reliable general anesthetic which is most suited for operations for removal of adenoids and tonsils in children. It is simple of administration and does not require an expert or one of large experience to give it. The patient is under the influence quickly, is out almost immediately on completion of the operation; there are no unpleasant or dangerous effects from its use either during or after the operation. This anesthetic is not only especially applicable in operations in the throat, but should be used in most other operations performed on children. When the inhaler is kept over the patient's nose and mouth he can be kept under the anesthetic as long as desired. It is only when that is removed that the patient regains consciousness more quickly than with other anesthetics. When long operations are necessary on the nose or throat, Sill advises first putting the patient under ethyl chlorid and then continuing deep anesthesia with ether, using the drop method.

7. **New Physical Sign.**—This sign, probably a skin reflex, whereby solid organs, the heart and liver, and inflammatory processes found in lungs and pleura may be detected by palpation, consists of a feeling of resistance to the palpating finger when pressed gently on the skin. To determine the presence of this sign, Pottenger says that it is well to begin at some little distance from the edge of the organ, or if it be an inflammation or infiltration that is to be outlined, it is well to begin over presumably normal tissue, and then by advancing toward the area whose limits are to be determined there will be noted a feeling of resistance when this is reached. He believes it to be a skin reflex produced by the contraction of the erectores pilorum. The heart can be easily and accurately outlined by it, the liver dulness, both relative and absolute, can be determined, and the areas of infiltration in the lung can be mapped out with surprising accuracy.

Boston Medical and Surgical Journal

October 21

8 The Diagnostic Bearing of Certain Normal and Abnormal Pulmonary and Pleural Conditions. F. T. Lord, Boston.
9 Work Accomplished in the Control of Tuberculosis in Massachusetts During the Past Year. A. T. Cabot, Boston.
10 Necessity of Providing Suitable Employments for Tuberculosis Patients. A. Worcester, Waltham, Mass.
11 *Program for Tuberculosis Societies in Smaller Cities and Towns. C. A. Allen, Holyoke, Mass.
12 Asexualization as a Remedial Measure in the Relief of Certain Forms of Mental, Moral and Physical Degeneration. J. E. Mears, Philadelphia.
13 *Intravenous Use of Strophanthin in Broken Cardiac Compensation. A. K. Stone, Boston.

11. **Program for Tuberculosis Societies.**—Allen places before the profession a general plan of organization and a practical working scheme which has been found valuable in actual practice in several Massachusetts cities and towns. He says:

> Get together a few interested persons, with as many physicians among the number as possible; also business men, ladies prominent in social and charitable work, the Young Men's Christian Association, clergy, and others interested, and organize. Every organization should have one central board of directors or executive council, who should have full control of the work. Let them appoint a few essential committees, somewhat as follows: (1) On education and publication; (2) finance; (3) laws and ordinances; (4) hospitals and day camps; (5) membership; (6) statistics; (7) tenement and milk inspection; (8) relief. These and other committees should be appointed according to the location, character and need of the community. It would seem wise to have the chairmen of all committees members of the central board, and let them appoint the other members from outside, so as to interest as many public-spirited citizens as possible. The committees should report to the central board at stated intervals, giving full detail of all work done or attempted. As soon as the society is fully organized, hold a general public mass meeting. See the editors of all local papers and get their assistance in advertising the meeting and its object. Have some man of prominence in the work as the principal speaker, and invite all physicians, nurses, teachers, charitable and fraternal orders to attend, besides the general public. Following such a meeting have the tuberculosis exhibit for a week, if possible. The mass meeting, exhibit, and free newspaper advertising will thoroughly awaken the community, and the work of the various committees will be greatly enhanced thereby. The cost of maintaining an active antituberculosis organization is considerable. Besides membership fees and voluntary contributions, funds may be secured in various ways. Churches, fraternal organizations and charitable societies have contributed generously.

13. **Strophanthin in Broken Cardiac Compensation.**—Stone believes that in strophanthin we have a powerful agent for good, if used with discretion, and one with which disastrous consequences may occur if it is used recklessly. The drug should be injected only by physicians who have had much experience with cardiac disease, and who are sure of their intravenous technic. Stone has given strophanthin intravenously over fifty times without a single death attributable to the drug. He makes it a rule to postpone the injection long enough to be sure that all digitalis previously given has been excreted.

New York Medical Journal

October 23

14 Municipal Campaigns for Reducing Infant Mortality. S. W. Newmayer, Philadelphia.
15 Prevalent Diseases of Tropical America. J. H. Egbert, Portovelo, Ecuador, S. A.
16 Esperanto in Relation to Medicine. K. W. Millican, Fairlee, Vt.
17 Cancer of the Stomacl [illegible] rleston, W. Va.
18 Economics of Health. [illegible]
19 Treatment of Ophthalr [illegible] evitt, Brooklyn.
20 The Thiocyanates in [illegible] Physiologic Solvents of the Body. [illegible] hio.
21 *Home Modification of [illegible] Feeding; Simplified Method. H. B. [illegible]
22 *Rectal Erosions; New Method of Examination. S. Lewis, Lakehurst, N. J.

21. **Home Modification of Cow's Milk.**—Sheffield gives the following directions:

> 1. Bear in mind the standard formula (1:1), which is intended for babies six months old.
>
> 2. For infants under six months increase (about every two months downward) the diluent by one ounce or its multiple, using "top milk" as a base and plain or cereal water as the diluent.
>
> 3. For infants over six months of age, increase (every six months upward) the milk by one ounce or its multiple, using "whole milk" as the base and cereal water as the diluent.
>
> 4. Include in the diluent one teaspoonful of lime water for every ounce of milk, and add one third of a teaspoonful of milk sugar for every ounce of the diluent.

22. **Rectal Erosions.**—Instead of the usual speculum, Lewis employs glass rectal dilators. One of these, as large as the patient will bear, should be lubricated with glycerin or some other transparent lubricant (not petrolatum) and inserted.

The entire surface is at once open to inspection. The normal mucosa is pale from pressure; and fissures, erosions, or emboli are clearly seen. Partial relief of pressure by tilting or partial withdrawal of the "speculum" may assist. An electric diagnostic lamp is useful. The most satisfactory treatment Lewis has employed has been the use of potassium permanganate, crystal or saturated solution, followed by the usual powders, ointments or suppository as the case may demand.

Lancet-Clinic, Cincinnati

October 16

23 Mistakes in Medical Practice. S. G. Bonney, Denver.
24 The Modern Medical College. C. A. L. Reed, Cincinnati.
25 Conservatism in Ear, Nose and Throat Surgery. F. W. Davis, Cincinnati.

Kentucky Medical Journal, Bowling Green

October 1

26 Medical Defense. J. J. Moren, Louisville.
27 Some Needed Changes in Medical Defense. C. Pope, Louisville.
28 Enterocolitis. R. J. Estill, Lexington.
29 Diarrheal Affections of Children. H. Blane, Cadiz.
30 *Treatment of Acute Insanity. S. Brown, Chicago.
31 Removal of Foreign Bodies from the Trachea and Esophagus. J. W. Murphy, Cincinnati.
32 Rachitis: Pathology, Diagnosis and Treatment. E. F. Katzmann, Louisville.

October 15

33 Intestinal Obstruction. W. H. Wathen, Louisville.
34 Submucous Fibroids Complicating Labor. G. C. Leachman, Louisville.
35 Bier Static Hyperemia. F. L. Koontz, Louisville.

30. Published in the *Illinois Medical Journal*, October, 1909.

Northwestern Lancet, Minneapolis

October 1

36 A Talk to Doctors. J. N. McCormack, Bowling Green, Ky.
37 Epidemic Anterior Poliomyelitis. A. S. Hamilton, Minneapolis.

Virginia Medical Semi-Monthly, Richmond

October 8

38 The Negro as a Factor in the Spread of Tuberculosis. T. A. [illegible]
39 [illegible] as Relating to Appendix Location. A. [illegible], N. J.
40 Pellagra; Report of a Case. C. H. Saunders, Chase City.
41 Pellagra; Report of Fourteen Cases (continued). W. F. Drewry, Petersburg.
42 Production of Immunity. J. W. Winston, Norfolk.
43 Celiac Parotitis. E. L. Crutchfield, Baltimore, Md.
44 The Medical Society of Virginia. S. McGuire, Richmond.

Alabama Medical Journal, Birmingham

September

45 The Doctor and Proprietaries. C. L. Murphree, Gadsden.
46 Care of the New-Born. C. M. Nice, Birmingham.
47 Fused Kidney (Horseshoe Kidney). B. Robinson, Chicago.
48 Management of the Heart in Convalescence. R. H. Hamrick, Birmingham.
49 Therapeutics of Digitalis, Strophanthus and Sparteine. E. C. Bandy, Birmingham.

Archives of Internal Medicine, Chicago

October

50 *Further Observations on the Third Heart Sound. W. S. Thayer, Baltimore.
51 *The Effect of Tuberculosis on the Heart. F. M. Pottenger, Monrovia, Cal.
52 *Influenzal Meningitis. D. J. Davis, Chicago.
53 Clinical Significance of the Urinary Nitrogen. J. Ewing and C. G. L. Wolf, New York.
54 *Mechanical Factors in Experimental Acute Pulmonary Edema. J. L. Miller and S. A. Matthews, Chicago.
55 *Comparative Study of Serodiagnosis in Syphilis. H. F. Swift, New York.
56 *The Much-Holzmann Seroreaction in Insanity. A. J. Rosanoff, Kings Park, N. Y.

50. **The Third Heart Sound.**—According to Thayer, the third heart sound is present in the majority of young individuals in the recumbent and left lateral posture. This sound may well be due, he says, as first suggested by Hirschfelder, and later, independently, by Gibson and Thayer to the sudden tension of the auriculoventricular valves as a result of the first rush of blood from auricle into ventricle in diastole. Pathologically, the sound is most frequent in conditions in which the quantity of blood entering the ventricle from the auricle is especially large; in which the diastole is unusually rapid; in which there is a lowered ventricular tonus or dilatation of the ventricle. The most striking examples of these conditions are aortic and mitral insufficiency, some instances of slight mitral stenosis combined with insufficiency, adherent pericardium, myocardial weakness, and dilatation of the ventricle. A protodiastolic gallop is not, therefore, *per se*, a pathologic manifestation.

51. **Effect of Tuberculosis on the Heart.**—Of one-hundred and sixty-two hearts examined by Pottenger, seventy were under 11 cm. in diameter, measured on a level with the fourth interspace, and ninety-two were more than 11 cm. Of course it must be remembered, he says, that we are not always measuring the same cross-section of the heart, for in the displacement that occurs different portions of the heart are found on a line with the fourth interspace. It must also be understood that no effort was made by Pottenger to give the greatest cross-diameter of the heart in these measurements. It is probable that these figures are somewhat in error as to the size of the heart, for signs of hypertrophy of the right ventricle were present in a large number of the cases, which, together with the traction of the pleura on the pericardium, as it often occurs in the advanced cases, would probably have a tendency in certain cases to force the heart backward. Thus a considerable degree of enlargement of the heart might be present without enlarging its borders, as found on percussion. The same condition results from the fact that as the heart is pushed to the left it is forced to turn backward because the walls of the chest turn backward. The conclusions arrived at by Pottenger are the following:

1. A relative low blood-pressure is found in tuberculosis, especially in advanced cases.

2. The factors which favor low pressure are the effect of the toxins on the vasodilators, the weakness of the heart muscle and general wasting.

3. The factors which have a tendency to maintain pressure are hypertrophy of the heart muscle and thickening of the systemic arteries.

4. Thickening of the systemic arteries occurs perhaps as a result of the action of the toxins on the vessel wall and is found especially in patients who have had tuberculosis for some time.

5. Myocarditis is a condition very common in advanced tuberculosis and one which, if recognized, yields to appropriate treatment in many instances.

6. It is difficult to give an opinion on the heart tones in advanced tuberculosis because conditions surrounding the valves are changed by such things as infiltrations, cavities, emphysemas and contraction.

7. In the majority of advanced cases (ninety-nine out of one hundred and thirty) the heart is displaced and working at a disadvantage.

8. In estimating the size of the heart it must be remembered that as the heart pushes over to the left it pushes backward, and consequently the lateral diameter as taken on a level with the fourth interspace does not give an adequate idea of the real or true size of the heart; also that the hypertrophy of the right heart often throws the left ventricle backward, producing the same result.

52. **Influenzal Meningitis.**—Twin brothers became ill on the fifth day after birth; the cases ran an identical clinical course and terminated fatally on the ninth and eleventh days respectively after birth. There was little or no distinct clinical evidence of meningeal involvement. Autopsy on the first child revealed as the prominent lesions acute purulent leptomeningitis and acute enteritis. From the meningeal exudate and from the peritoneal fluid pure cultures of *Bacillus influenzæ* were obtained. The usual atria of infection—nasal cavity, tympanic cavities, lungs, bronchi and throat—were normal. Omphalitis was not present.

54. **Experimental Acute Pulmonary Edema.**—Summarizing the cardiovascular changes observed in the pulmonary edema produced by various chemical agents, Miller and Matthews notice a striking similarity. Generally there is a fall in the systemic pressure and a rise in pressure in the pulmonary artery. At the same time, the right side of the heart becomes dilated, the left remains normal in size or, as some have maintained, contracted. Pressure changes in the pulmonary artery are not necessarily associated with corresponding changes in the left auricle, since a rise in pressure in the pulmonary artery may be associated with a fall in pressure in the left auricle or *vice versa*. The authors' experimental work was undertaken with a view of determining the following questions: first, whether acute pulmonary edema, produced by other agents than those already tried, is associated with a rise in pressure in the pulmonary artery; second, to repeat the experiments with acetic ether, since in the previous work the acetic ether had been an exception, inasmuch as it produced pulmonary edema without an increase in pressure in the pulmonary artery; third, the value of various agents in controlling the development or modifying the course of acute experimental pulmonary edema.

Miller and Matthews found that when pulmonary edema develops after exposure to nitric oxid or ammonia, there is no evidence that mechanical factors play a rôle; *i. e.*, they were unable to detect any evidence of disproportion between the working power of the two sides of the heart. The acute pulmonary edema following inhalation or intravenous injection of acetic ether is usually associated with evidence of disproportion in the working power of the two sides of the heart, as there is a fall in the systemic and a corresponding rise in pressure in the pulmonary artery. When large doses of acetic ether are injected intravenously, pulmonary edema may occur without evidence of disproportion in the working power of the two sides of the heart, thus showing that such changes are not essential for its appearance. It would appear, therefore, that mechanical factors are not responsible for the edema. In the acute pulmonary edema produced by iodids, there is in the beginning a marked rise in pressure in both the systemic and pulmonary circulation; later the systemic blood pressure falls, but the pressure in the pulmonary artery remains high.

This disproportion in the working power of the two ventricles was present in every instance; it would appear from these experiments, therefore, that the edema might be explained by mechanical agents, although not necessarily so. The intravenous injection of adrenalin chlorid, when preceded by ligation of the thoracic aorta, caused pulmonary edema. Apparently as a result of the great increase in the systemic blood pressure after such a procedure, the left ventricle is unable to empty itself completely; stasis and rise in pressure in the pulmonary artery follows. This is perhaps the mechanism of acute pulmonary edema in nephritis with hypertension. In the mechanical edemas, therapeutic measures to be of value should tend to equalize the work of the cardiac chambers. This may mean the use of vasodilators in some instances; in others, the use of drugs that stimulate the heart activity.

55. **Serodiagnosis in Syphilis.**—According to Swift, the Wassermann reaction is a fairly definite diagnostic measure. A positive reaction practically always means syphilis. Negative findings give only presumptive evidence of the absence of syphilis. The Bauer modification is not reliable because of the inconstant content of native hemolysin to sheep cells. A large anti-sheep hemolytic content will mask a partial complement fixation. The Noguchi reaction, Swift asserts, is more readily applied and is more sensitive than the Wassermann reaction. This increased sensitiveness, however, sometimes causes a positive reaction with non-specific serums which give a negative Wassermann reaction. Experiments now under way seem to indicate that this may be avoided by the use of inactive serum.

56. **Much-Holzmann Serum Reaction in Insanity.**—Practically all human serums possess the power, in a more or less pronounced degree, of inhibiting the hemolytic action of cobra venom on human blood corpuscles. A comparatively high degree of this power, which constitutes the basis of Much and Holzmann's reaction, is not strictly specific for any psychosis, being found with greater or less frequency in almost all psychoses and in the blood of a considerable percentage of persons who are apparently normal (8.1 per cent. in the series cited in this paper).

This reaction was present in more than half of Rosanoff's series of cases (57.9 per cent.) of dementia præcox. As it appears to be much more common in this condition than in any other, it may prove to be a diagnostic aid; it would seem, says Rosanoff, that the presence of this reaction in a psychosis should add, in the consideration of the diagnosis, some degree of probability in favor of dementia præcox. Of a series of fifteen typical cases of manic-depressive insanity not one gave a positive reaction, and in only one was the reaction doubtful, being clearly negative in all the rest. Two of the patients had recovered from their psychosis when their blood was examined. There is apparently no relationship between the Wassermann reaction and the Much-Holzmann reaction.

Iowa Medical Journal, Des Moines

October

57 Materia Medica and Pharmacology. C. S. Chase, Iowa City.
58 The Therapeutic Problem and the Young General Practitioner. J. C. Cooper, Villisca.
59 Alkaloidal Therapy. G. H. Sumner, Waterloo.
60 Atoxyl and Other Remedies in Treatment of Diseases of Children. A. Staples, Dubuque.
61 Organotherapy and Serotherapy to Date. E. T. Kegel, Walcott.
62 Bacterial Vaccines. H. Albert, Iowa City.
63 *The Lemniscus Temporalis et Occipitalis. H. J. H. Hoeve, Des Moines.

63. **The Lemniscus Temporalis et Occipitalis.**—Under this name, Hoeve describes a hitherto undescribed bundle of brain fibers forming a direct connection with the cortex of the lobus temporalis et occipitalis. The bundle in question is a large bundle of fibers which leaves the mid-brain at a point supero-lateral to the corpus mamillare, just internal to the upper part of the pedunculus cerebri. It lies directly superior to the radix medialis tractus optici and supero-internal and infero-external to the pars occipito-temporalis commissuræ anterioris. It curves backward around the pedunculus cerebri in close contact with it. It is a cord-like bundle which is round in its anterior part and considerably flattened from side to side posteriorly. It can readily be exposed if a brain is placed with its base upward, the pia removed from the substantia perforata posterior, the lower part of the lobus temporalis removed, the tractus opticus reflected backward and the corresponding pedunculus cerebri reflected outward and backward, after being cut just above the pons.

St. Louis Medical Review

September

64 The State Laboratory as a Safeguard to the Public Health. G. McConnell, St. Louis.
65 Diagnosis of Cholecystitis and Cholecystitis Calculosa. B. Robinson, Chicago.
66 The Compressible Tube Treatment of Gonorrhea. W. Karo, Berlin, Germany.

Northwest Medicine, Seattle

October

67 State Care of the Insane. A. W. Frater, Seattle.
68 *State Care and Treatment of the Insane. J. W. Givens, Orofino, Ida.
69 *Expression of Cataract in Its Capsule. H. V. Würdemann, Seattle.
70 General Treatment of Wounds. E. F. Tucker, Portland, Ore.
71 Diagnosis and Treatment of Fractures, L. H. Hamilton, Portland.
72 *Tobacco Toxemia. R. V. Dolby, Vancouver, B. C.
73 *Abscess of Kidney Diagnosed as Empyema of Gall-Bladder. C. W. Sharples, Seattle.
74 Treatment of Patients Preparatory to and Immediately Following Operation. P. W. Willis, Seattle.
75 Do Protozoan Disease Germs Exist in British Columbia? B. D. Gillies, Vancouver, B. C.
76 Diagnostic Value of the Wassermann Reaction. H. P. Marshall, Spokane.

68. **Care and Treatment of the Insane.**—Givens claims that the best way for the patients in a state asylum to obtain their food is by producing it themselves. Every state asylum should own and operate one or more large farms. With such a farm with its gardens, orchards, vineyards, fields, meadows, flocks and herds, and the many patients needing employment, the entire state asylum population can live on the very fat of the land and with very little cost to the taxpayers of the state. The farm thus serves a triple purpose. It affords to the patient a great variety of interesting healthful employment for body and mind. It gives him the best possible food. It relieves, to a considerable extent, the taxpayer in supporting the state asylum. A great deal of the construction work of state asylums can be advantageously done by the patients. The grading, excavating, laying of water and sewer pipes, making brick, hauling building material on the grounds and attending to masons can be largely done by the patients. By selecting the more competent patients for such work, building can go along as patients increase without overcrowding and with small state appropriations.

69. **Expression of Cataract.**—Würdemann's experience has shown that where the 2/5 sclerocorneal section with conjunctival flap is made, delayed union is unknown, combined with a very small iridectomy and expression of lens; *i. e.*, the regular operation less a capsulotomy, in immature and hypermature cataracts, is the only all-round satisfactory operation. The ordinary run of mature cataracts may, perhaps, be as well operated on with less risk in the average hands by the generally adopted flap extraction with capsulotomy; cataract in children and traumatic cataract by discission. The least handling of the eye and the fewest instruments possible is the characteristic of this operation. It is

not an operation for a beginner, but it can safely be practiced by a skilled eye surgeon.

72. **Tobacco Toxemia.**—When the subject is examined, says Dolbey, even in a superficial way, it is evident that our most cherished beliefs are founded on misconceptions. Exact knowledge, once divorced from popular prejudice, shows that after the hookah, the cigarette is the least harmful form in which tobacco can be used. Chewing is without doubt the most pernicious form in which to employ tobacco. The pipe and cigar, far from being the safest medium for the indulgence of tobacco, are the most dangerous. Tobacco amblyopia, cardiac syncope, angina, loss of memory, tardy and delayed cerebration are found chiefly in heavy cigar and pipe smokers. The cigarette, hitherto considered so baneful, the one form of smoking which has been interdicted by special legislation, seems now to be responsible for cardiac irritability, largely in neurotic people, and an irritable laryngitis and pharyngitis alone. Even cancer of the lips or tongue, and without doubt tobacco is one only of the predisposing and irritating causes, seems to be the special heritage of the pipe or cigar smoker. The Indians and Mexicans, all inveterate cigarette smokers, though exhibiting some tendency to cancer of the breast or uterus, seem to show an exceedingly slight predisposition to cancer of the lips and tongue.

73. **Abscess of the Kidney.**—A man was running a high temperature and had pain under the right costal cartilages going through to his back. He was apparently septic. To moderately deep pressure he was tender over the right rectus in the upper part, which was not rigid; and, on hooking the finger under his ribs and asking him to take a long breath, he stopped short on account of the pain it produced. A diagnosis of empyema of the gall-bladder was made. At the operation, no disease was found in or around the gall-bladder, but the kidney was found to be enlarged. The abdominal wound was closed and a lumbar incision made, when it was found there was a large abscess in the upper half of the kidney, on the posterior surface; and so superficial was the pus that during the operation the abscess was evacuated.

Surgery, Gynecology and Obstetrics, Chicago

October

77 *Later Results of Ovariotomy, Especially in Cases of Doubtful Character. Prof. Hofmeier. Würzburg, Germany.
78 *The Rôle of Heart Massage in Surgery. C. S. White, Washington, D. C.
79 *Checking the Secretion of the Lactating Breast. H. J. Storrs, Baltimore.
80 *What is the Preferable Time for Abdominal Operation for a Chronic Inflammatory Mass in Pelvis. H. S. Crossen, St. Louis.
81 Evolution of Ovariotomy in France. S. Pozzi, Paris, France.
82 Esophagoscopy and Gastroscopy in Diagnosis. B. A. Thomas, Philadelphia.
83 Bone Sarcoma. L. Buerger, New York.
84 Data Acquired with the Aid of the Ureteral Catheter. W. F. Braasch, Rochester, Minn.
85 Anesthetics in Hospitals and Private Practice. J. T. Gwathmey, New York.
86 Experiences in Cranial Surgery. C. A. Elsburg, New York.
87 Inguinal Hernia of the Rudimentary Horn of the Uterus and Adnexa in an Infant with External Genitals of an Intermediate Type. H. Upcott, Hull, England.
88 New Operation for Radical Cure of Femoral Hernia. B. B. Cates, Knoxville, Tenn.
89 Method of Closing Abdominal Wounds Without Using Buried Sutures. G. Torrance, Birmingham, Ala.

77. Abstracted in THE JOURNAL, May 15, 1909. p. 1615.

78. **Heart Massage in Surgery.**—Of fifty cases reported, including two of White's, 20 per cent., or ten patients, were saved. One of White's patients died on the eleventh day, of an affection in no way connected with massage of the heart, Eight of the ten patients were saved by subdiaphragmatic massage, two by direct, and none by transdiaphragmatic massage. Fourteen patients were partially revived, living from thirty minutes to twenty hours, death in several instances being due to a toxemia of an unknown etiology. It appears that the subdiaphragmatic method has surpassed the earlier methods in percentage of recoveries. Heart massage is an established method of resuscitation, and inasmuch as heart failure is rarely primary in chloroform anesthesia, it is essential that respiration be invoked by artificial means in conjunction with heart massage. Artificial respiration alone will not inaugurate heart contractions nor maintain blood pressure. The best results have been obtained by the subdiaphragmatic method. The most frequent indication for its use is in chloroform narcosis with cessation of respiration and circulation. In other conditions of heart failure secondary to respiratory failure and not dependent on organic changes in the heart, the method is applicable. Further, use of the method will widen its field of usefulness. The possibility of resuscitation bears a definite relation to the time that has elapsed between the cessation of the heart beat and massage. The briefer the interval the more rapid is the response to the massage.

79. **Checking the Secretion of the Lactating Breast.**—Since 1904, the obstetric staff of the Johns Hopkins Hospital has employed a simple method of checking the lacteal secretion in women who could not suckle their children for one reason or another. This method was first used by Dr. Edwin R. Lewis of Westerly, R. I. It consists in the administration of from 15 to 20 grains of acetate of potassium in water three to four times a day, associated with small doses of codein or morphin, if the breasts are painful, and has proved so satisfactory that Dr. Lewis has not found it necessary to use a breast pump, to apply a binder, or to make any medicinal application to the breasts for nearly twenty years. Under this treatment, the breasts become more or less acutely engorged on the second, third or fourth day after labor on the discontinuance of suckling, but the condition passes off spontaneously within twenty-four hours if the breasts are left absolutely alone, after which they gradually become softer and smaller and secrete less and less milk, so that the secretion entirely disappears by the end of the week. Storrs says that not a single case of mammary abscess has occurred in the hospital since this method of checking the lacteal secretion has been in vogue. This series of cases comprises patients in all stages of lactation—from that following premature or full term delivery to cases in which it has persisted for some months or even a year. In no instance did mammary abscesses develop in spite of the fact that some of the women were harboring more or less serious infection. Occasionally one breast was the seat of a mastitis at the time of admission, yet the other would dry up as spontaneously under treatment.

80. **Chronic Inflammatory Mass in Pelvis.**—A careful study of personal and recorded cases leads Crossen to say that in more than half of the cases of chronic suppuration in the pelvis, the pus is sterile at the time of operation—showing that sterilization of the infected focus takes place automatically within a reasonable time in the majority of cases. Abdominal removal of the mass while the bacteria are active and virulent, results in fatal peritonitis or localized infection in many of the cases. Abdominal removal of the mass after the bacteria are dead or greatly attenuated, is almost never followed by infection, even though there is an extensive escape of pus into the pelvis. Hence, abdominal operation for a chronic inflammatory mass in the pelvis should not be undertaken before the period of probable sterilization, except in those rare cases in which, in spite of palliative measures, the patient's life is threatened by the severity of the inflammation, and the infected focus cannot be satisfactorily drained extraperitoneally. The time required for the death of the bacteria or effective attenuation varies greatly in different cases. The persistence of virulence depends largely on the character of the infection. In a case that is clearly streptococcic, abdominal section is never safe. Even when the temperature and pulse are normal and everything quiescent, intraperitoneal operation for the mass is liable to cause the patient's death from streptococcal peritonitis. In a case that is doubtful a most careful study should be made of all the features of the case and every helpful diagnostic method should be brought into use to aid in reaching a positive conclusion. No intraperitoneal operation should be undertaken until the streptococcus is excluded with reasonable certainty. In a doubtful case in which the abdomen is opened on the supposition that the mass is tubo-ovarian and it is found, before adhesions are much disturbed, that the mass is principally in the connective tissue, the route of attack should be changed to extraperitoneal and the adbdominal wound closed. Such a lesion probably contains streptococci, and the adhesions of omentum and bowel, which caused the deceptive mass high

in the tubal region, constitute Nature's barrier between the virulent bacteria and the peritoneal cavity. When this barrier is broken down, the way is opened for a fatal peritonitis.

Atlanta Journal-Record of Medicine

September

90 Study of Three Hundred Cases of Smallpox. M. Crook, Columbus, Ga.
91 Symptoms of Hydrophobia as Presented in Domestic Animals and Man. J. N. Brawner, Atlanta.
92 Surgical Treatment of Prostatic Hypertrophy and Abscess. G. Torrance, Birmingham, Ala.
93 Case of Systemic Blastomycosis. J. L. Campbell, Atlanta.
94 Kidney of Pregnancy. J. B. Cranmer, Wilmington, N. C.
95 Angioneurotic Edema. W. J. Love, Opelika, Ala.

Journal Kansas State Medical Society, Kansas City

October

96 *Injuries of the Spinal Cord Due to Accident. O. D. Walker, Salina.
97 Treatment of Heart Disease. R. C. Lowman, Kansas City.
98 The Air as a Carrier of Infection. I. H. Hyde, Kansas City.
99 *Peliosis Rheumatica. F. W. Shaw, Kansas City.

96. **Injuries of Spinal Cord.**—Walker reviews the clinical history of spinal cord injuries and reports four cases.

99. **Peliosis Rheumatica.**—The following was the course of the disease in the case reported by Shaw: March 22, 1909, a hemorrhage appeared over the dorsal surface of the left index finger at the distal articulation. At the same time, there developed an edema of both hands and arms. The elbow joints, wrists and joints of the hand became painful. March 23, other hemorrhages, in the form of purpura, appeared over all the joints of the right hand, the larger number of hemorrhages appearing on the palmar surface. A few hemorrhages appeared over the wrist-joint and one over each elbow. March 25, the hemorrhage became bullous and the tissue at the site of the first hemorrhage became necrotic. April 2, the edema began to disappear from the hands and arms, and it was noticed in the feet and legs. April 3, hemorrhages appeared over the small joints and outer aspect of the feet, and over the tarsal articulations; also a hemorrhage over the coccyx, three inches in diameter, one over the calf of the left leg, two inches by five inches, and one into the left side of the tongue, uvula and soft palate.

At this period, swallowing became so painful that it was very hard to get the patient to partake of liquids. The pain in the joints, especially the larger ones, was so acute that he could not be moved without crying out. During the first two weeks the temperature ranged between 99 and 104 F.; it dropped to normal on April 5. The throat symptoms disappeared, and the patient began to eat heartily. April 5, the hemorrhages of the feet became bullous, the largest being on the outer aspect of the right foot, involving about half of the upper and lower surfaces. This began to slough on April 17, and the edema to disappear.

A line of demarcation had formed on April 23, and the edema had disappeared entirely from the left foot and leg, the skin being very dry and hard. A small portion of the tongue and uvula sloughed away. The pains and the swelling of the joints began to diminish about April 20, and had disappeared almost entirely by May 1. At this time there remained the large slough, which was gradually healing on the right foot. Large numbers of eosinophilic leucocytes were found in the blood from the bullæ. Albumin appeared in the urine, but there was no blood. Sodium salicylate was given in the early stage of the disease but, on account of the throat symptoms, it was discontinued. The only other remedy given was sherry.

Journal New Jersey State Medical Association

October

100 *Indications for the Induction of Labor, Instrumental Delivery Through the Vagina and Cesarean Section. E. P. Davis, Philadelphia.
101 *Indications for Interference During Labor. S. Marx, New York.
102 Pyelitis and Allied Conditions in Children. L. C. Ager, Brooklyn.

100, 101. Abstracted in The Journal, Aug. 21, 1909, p. 649.

Ameican Journal of Orthopedic Surgery, Philadelphia

August

103 *Use of Animal Membrane in Producing Mobility in Ankylosed Joints. W. S. Baer, Baltimore.
104 Arthrotomy in Treatment of Tuberculous Joints, Particularly the Knee-Joint. V. P. Gibney, New York.
105 *Simple Dressing for Treatment of Tuberculous Disease of Shoulder-Joint. A. J. Gillette, St. Paul.
106 Bismuth Paste Treatment of Tuberculous Sinuses. J. Ridlon and W. Blanchard, Chicago.
107 Toxic Arthritis of the Hip-Joint in Children. M. Hoke, Atlanta, Ga.
108 Congenital Dislocation of the Hip. E. H. Bradford, Boston.
109 Joint Cartilage in Its Relation to Joint Pathology. P. W. Nathan and W. W. Strang, New York.
110 Modified Whitman Brace for Calcaneus. H. O. Feiss, Cleveland.

103. Abstracted in The Journal, Aug. 7, 1909, p. 478.

105. **Dressing for Tuberculous Diseases of Shoulder Joint.**—The principle of Gillette's dressing is simply placing a roll of cotton in the axilla large enough to make outward pressure on the upper end of the humerus, and securing it there by the use of a spica bandage. This acts as a fulcrum, so that the weight of the arm and the forearm relieves the intra-articular pressure. The advantage in using this dressing is that it permits of use of the arm in almost any occupation, except, possibly, in very acute stages, is comfortable for the patient, and meets every indication so far as relief of pain is concerned, and relieves intra-articular pressure. While it does not assure continuous rest, the patient is able not only to dress and undress himself without causing pain, but can execute almost any movement.

Buffalo Medical Journal

October

111 Referee Board on Benzoate of Soda. C. A. L. Reed, Cincinnati, Ohio.
112 Surgical Treatment of Cancer of the Rectum. C. H. Leaf, London, England.

Quarterly Bulletin Northwestern University, Chicago

September

113 Investigations on the Irritating Effects of Cathartic Drugs. I. A. Abt, Chicago.
114 Differential Diagnosis of Pathologic Conditions of the Bones and Joints by the Roentgen Rays. B. C. Cushway, Chicago.
115 Calculus of the Ureter. C. M. Fox, Chicago.
116 *Experiments with "Graupner's Test" for Estimating Functional Power of the Cardiovascular System. L. J. Osgood, Chicago.
117 Case of Leontiasis Ossea. J. J. Cole, Chicago.
118 Case of Trifacial Neuralgia. D'O. Hecht, Chicago.
119 *Preputial Frenum; Its Surgical Importance. V. D. Lespinasse, Chicago.

116. **Graupner's Test.**—Osgood believes that Graupner's test would be of great assistance in estimating the functional power of any heart muscle. It would have to be limited in its use, however, to cases in which compensation was not too bady broken. It would be of value in cases in which one was not able to demonstrate any gross lesion, but in which there seemed to be some degree of cardiac weakness. The blood pressure is of just as much clinical importance in treating a case of cardiac or renal disease as is the pulse rate or any other data which can be obtained by physical examination, and, therefore, a blood-pressure reading should be taken every day in order to treat scientifically any case of cardiac or renal disease.

119. **Preputial Frenum.**—Lespinasse holds that the preputial frenum has no physiology, but that it plays an important rôle in the pathogenesis of penile disease. He advocates its removal as a routine in all circumcisions and other penile operations when it can be done easily and without increasing the risk.

Denver Medical Times and Utah Medical Journal

October

120 Etiology of Trachoma. E. O. Sisson, Denver.
121 Mobility and Malposition of the Heart. C. B. Van Zant, Denver.
122 Antepartum Hemorrhage. M. D. Healy, Denver.
123 *What the Physician who has no X-Ray Should Know About It. N. M. Eberhart, Chicago.
124 Treatment of Goiter. W. S. Yates, Capron, Okla.
125 Venereal Diseases. F. Clift, Provo, Utah.

123. This article has been published in the *Medical Fortnightly*, August 25, the *Medical Summary*, September, and the *Milwaukee Medical Journal*, September, 1909.

American Medicine, New York

September

126 The Postoperative Patient. J. F. Erdmann, New York.
127 Early Diagnosis of Gall-Stones and the Importance of not Postponing Surgical Interference Until Serious Pathologic Changes Have Taken Place. J. E. Summers, Omaha, Neb

128 Rectal Examinations. C. J. Drueck, Chicago.
129 Muscle Anomalies. H. E. Radasch, Philadelphia.
130 Timidity and Insanity (concluded). M. K. Isham, Columbus, Ohio.
131 Diagnosis of Adenoids in Children and Adults. H. Hays, New York.
132 Eye Changes in Bright's Disease. R. Kalish, New York.
133 The Doctor in Politics. T. H. Dexter, Brooklyn.
134 *An Easy and Efficient Method of Treating Carbuncles and Furuncles. J. A. Keown, Lynn, Mass.

134. **Treating Carbuncles and Furuncles.**—For the smaller carbuncle Keown applies a drop of liquefied carbolic acid, about 95 per cent. strong, to the very top of the carbuncle in its early stages. After a few moments it is washed off with water or alcohol. For the larger carbuncles the carbolic acid is pricked into them with a wooden toothpick. For the still larger ones, with considerable swellings, redness and induration, a crucial incision is made in the carbuncle under cocain and not extending more than from one-quarter to one-half inch in either direction. The carbolic acid is applied on a toothpick with a small amount of cotton and the whole inside of the carbuncle painted with the 95 per cent. carbolic acid. This is washed with a corrosive sublimate solution and a corrosive dressing applied. The patient is given corrosive sublimate tablets and directed to dress the whole surface of the neck two or three times a day, being very careful to destroy all the old dressing and to wash the hands before and after each application.

The patient is directed to return the next day, but if any new carbuncles appear they are to be treated as above directed. In the course of a few days the carbuncle stops forming and the old ones rapidly improve and the patient is well in a short time. Explicit directions are given to the patient to guard against reinoculation of various parts of the body by the fingers. The patient is ordered nourishing diet, is directed to stay in the sunshine, to avoid work, and to practice other hygienic methods. He is also directed to take, if in a very run-down condition, the compound syrup of hypophosphites. In no case has Keown met with any poisonous effect from the use of carbolic acid applied in this way.

Ophthalmology, Seattle

October

135 Requirements and Regulations of Signalling by Color. C. A. Oliver, Philadelphia.
136 *The Expression of Cataract in its Capsule. H. V. Würdemann, Seattle.
137 Capsule Forceps in Cataract Extraction. F. Tooke, Montreal.
138 Ur[illegible] Occurring During and Following the [illegible] C. A. Veasy, Spokane.
139 Th[illegible] of Strabismus. H. F. Hansell, Philadelphia.
140 Ge[illegible] Deviation of the Eyes. H. Rönne, [illegible]
141 Et[illegible] Jennings and E. Hill, Philadelphia.
142 Value of the Ocular Reaction to Tuberculin. C. Zimmermann, Milwaukee.
143 Spontaneous Serous Cyst Floating Free in the Anterior Chamber. J. N. Roy, Montreal.

136. See Abstract No. 69.

West Virginia Medical Journal, Wheeling

October

145 Water-Borne Diseases. S. L. Jepson, Wheeling.
146 Cardiac Asthma: Cheyne Stokes Respiration, Bradycardia, Adams-Stokes Syndrome. L. D. Wilson, Wheeling.
147 Fractures. A. P. Butt, Davis.
148 Deformities of the Bones of the Face. J. C. Archer, Wheeling.
149 The Nose and Throat, in Relation to Tuberculosis. M. O. Fisher, Parkersburg.

Louisville Monthly Journal of Medicine and Surgery

October

150 Acute Cardiac Dilatation. J. G. Cecil, Louisville.
151 Duty of the Surgeon in Apparently Hopeless Cases. A. M. Vance, Louisville.
152 Carcinoma of Uterus; Renal Calculus. L. Frank, Louisville.

New Orleans Medical and Surgical Journal

October

153 [illegible] Tuberculosis. G. M. Niles, Atlanta.
154 [illegible] J. F. Oechsner, New Orleans.
155 [illegible] Angioneurotic Edema and Visceral Crises. I. I. Lemann, New Orleans.
156 Case of Pellagra. R. M. Van Wart, New Orleans.
157 Emergency Operation in the Country. L. D. McGehee, Hammond, La.
158 Goiter. G. Dock, New Orleans.
159 Experie[illegible] in Fresh Blood. M. P. Burnham, [illegible] Lyons, New Orleans.
160 Therape[illegible] Currents. A. Henriques, New Orleans.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 9

1 Experimental Research and Medical Progress. Sir J. Tweedy.
2 Complement Fixation. J. F. Flashman and A. G. Butler.
3 *Alcohol in Re[illegible] J. S. Bury.
4 *Paroxysmal [illegible] After an Attack of Herpes Zos[illegible]
5 Traumatic Rupture of the Small Intestine; Suture and Appendicostomy; Recovery. F. Radcliffe.
6 The Treatment of [illegible] Tweedy.
7 Ovarian Tumor. [illegible] Arising from the Overgrowth of Lute[illegible]
8 Treatment of Con[illegible] Fehling.
9 Dystocia Due to Ventrofixation of the Uterus. M. Cameron.
10 Development of the Epithelial Elements in the Ovary. A. L. McIlroy.
11 Treatment of Graver Forms of Puerperal Sepsis. T. Wilson.
12 Midwifery in Private Practice. J. J. Austin.
13 Uterine Cancer Complicating Pregnancy. C. Lockyer.
14 Inoculation Treatment of Tuberculous Arthritis. M. Smith.
15 *Treatment of Bronchial Asthma by a Vaccine. D. W. Carmalt-Jones.
16 *Treatment of Pneumonia by Inoculation. W. H. Willcox and W. P. Morgan.
17 Autoinoculation in Pulmonary Tuberculosis. M. Paterson.
18 Typhoid Carriers. T. Houston.
19 The Antitryptic Index. F. L. Golla.
20 Genesis and Treatment of the Malignant Tumors. Prof. Sanfelice.
21 The Microbe of Whooping Cough. Prof. Bordet.
22 Treatment of Club-Foot. R. Jones.

3. **Alcohol and Multiple Neuritis.**—Whether the neuritis is a direct or an indirect result of the poison, there is in Bury's opinion ample evidence to justify the view that well-marked cases of multiple neuritis (although not common) are produced more frequently by alcohol than by other poisons.

4. **Paroxysmal Tachycardia.**—Turner's case in most of its features agrees with one or other of the recorded cases, the variations being chiefly in minor and unessential details. The termination of the original attacks in vomiting and the artificial cutting short of subsequent ones, by the administration of emetics, is interesting. The feature which in this case seems most unusual is the coincidence of an outbreak of herpes zoster of the left second dorsal area with complete cessation of the heart attacks. Turner suggests that possibly it is no more than a coincidence in the popular sense of the word. Cases of paroxysmal tachycardia do cease spontaneously, and it is possible that in this case the cessation may only be a temporary one and that further attacks may occur later. On the other hand, the fact that the second left thoracic nerve is very closely associated with the nerve supply of the heart, and particularly with its accelerator fibers, and the fact that previous to the outbreak of zoster the heart attacks had recurred fairly regularly every two months for ten years, seem to suggest that the two things are related.

15. **Treatment of Bronchial Asthma by Vaccine.**—Carmalt-Jones suggests that one cause of spasmodic dyspnea in chronic bronchitis is a specific bacterial toxin, the result of a definite infection and amenable to treatment by the corresponding vaccine. In 1907, while making some investigations into the bacteriology of chronic bronchitis, he isolated a certain organism in nearly pure culture from the sputum of a female patient. He took her opsonic index to this, and finding it low, suggested inoculation, to which she agreed. She was given a dose of 25 millions hypodermically, and was instructed to come back in two days. She suffered severely from bronchial asthma. On her return she said that though her cough was no better her breathing had been much relieved. Carmalt-Jones used the same vaccine extensively among patients suffering from bronchial asthma, in about 70 cases in all, and of these he has collected 52, who gave the experiment a fair trial, that is, who attended for inoculation at least twice. Taking results as a whole, 31 patients have found some degree of improvement in the frequency, and 39 in the severity of their attacks; 26 have improved in their powers of taking exercise, and 29 have slept better. In some cases improvement has been slight and in others temporary. In 4 patients no improvement at all has resulted.

16. **Treatment of Pneumonia by Inoculation.**—Willcox and Morgan report two cases in which they studied the clinical effects of inoculation. They found that there was a *definite*

improvement in the clinical symptoms of the disease, thus there was often an immediate fall in the temperature, and the dyspnea and delirium became less after a dose of vaccine. The duration of the disease appeared in some cases to have been shortened; thus in one case the crisis occurred on the second day, in one on the third day, in one on the fourth day, and in 3 cases on the fifth day after the onset. In some cases, instead of a fall in temperature by crisis, the fever subsided by lysis; this happened in 8 cases, a rather larger proportion than would have been the case without vaccine treatment. The most striking and convincing evidence of the benefit derived from vaccine treatment was shown by those cases which ran a protracted course. The beneficial effects of vaccine were most striking, and these results could have been due to no other cause, since all the usual therapeutic measures had previously been adopted with no result. In two of their cases, while the ordinary stock vaccine gave no benefit, an autogenous vaccine almost immediately produced most striking effect, the symptoms rapidly clearing up.

Lancet, London

October 9

23 Causation in Health and Disease. F. Moulton.
24 Theories. H. A. Miers.
25 Importance of Athletic Games in the Formation of Character and the Advantages of Anatomy as a Disciplinary Study. Sir T. C. Allbutt.
26 Progress in Education. I. Owen.
27 Progress in Medicine. Sir J. Tweedy.
28 Walking the Hospital. J. S. Goodall.
29 *Clinical Significance of Albuminuria. N. Tirard.
30 *Investigation into the Etiology of Erysipelas, and Allied Infections. P. N. Panton and J. E. Adams.
31 Syphilitic Reinfection Nine Years After; Syphilitic Immunity. H. Dardenne.
32 *Corneo-conjunctival Bridge; New Method of Cataract Extraction. N. G. Cluckie.
33 The Poor-Law Medical Service; Coming Legislation. W. Holder.
34 Vaccination Acts and the Growth of Conscientious Objection. L. B. Cane.

29. **Clinical Significance of Albuminuria.**—According to Tirard, a large amount of albumin, without blood or pus, may generally be taken to indicate chronic tubal nephritis, and this can be confirmed by a high specific gravity, by microscopic examination, and by the appearance of the patient. A very small trace in an elderly or middle-aged man will probably indicate chronic interstitial nephritis; confirmatory evidence can be found in the aspect, the history, the pulse tension and tracing, the outward displacement of the cardiac impulse, the accentuation of the systolic apical sound, and the accentuation and reduplication of the second sound at the base of the heart. These indications may be further supported in some cases by the pale color and low specific gravity of the urine; less frequently information may be gathered from the presence of casts and from their predominant characteristics. The absence of casts is not, however, to be regarded as an indication that the case is not one of chronic interstitial nephritis. In a young man a mere trace of albumin may be the only evidence of a functional albuminuria, and the diagnosis must then rest on negative evidence to a large extent, one of the most important factors being the relatively high specific gravity, unless this has been influenced by nervousness or by the recent consumption of a large quantity of liquid. With the same limitations the deep color of the urine will lend confirmatory evidence. After all, albuminuria is merely an indication of an abnormal condition, it is not a disease.

30. **Etiology of Erysipelas.**—Panton and Adams define erysipelas as an acute inflammation of the epidermis due to the presence of one of the organisms of the streptococcus class, of which the *Streptococcus pyogenes* is the most frequent example. Cellulitis appears to be a strictly comparable inflammation of the cellular tissues, and when the inflammatory processes involve both the epidermis and the cellular tissues the condition of cellulo-cutaneous erysipelas results. Acute lymphangitis would seem to be a less virulent infection, due, as a rule to organisms of the staphylococcus class, with a greater tendency to spread, as its name implies, by the lymphatic system. Erysipelas is not, in the true sense of the term, a specific disease, since it may be produced by a variety of organisms, and these organisms are capable of producing other diseases in other parts of the body.

32. **New Method of Cataract Extraction.**—The modification to which Cluckie directs attention consists in performing von Graefe's operation up to a point that leaves a connecting flap between the cornea and the conjunctiva about four millimeters broad. Instead of completing the corneal section in the usual fashion the Graefe knife is carried further up under the bulbar conjunctiva for from 10 to 12 millimeters and is then withdrawn without cutting through the conjunctiva. There is thus a corneo-conjunctival bridge, which may be broad or narrow, but the broader and longer the conjunctival attachment to the cornea, the greater the chances of success and speedy recovery. Cluckie claims that by means of this corneo-conjunctival bridge, the continuity between the cornea and the conjunctiva being maintained, the nourishment of the cornea is not interfered with to the same extent as in the usual method, where complete division is carried out. Moreover, the parts are kept in more accurate apposition, thereby favoring rapid and certain union. From this it follows that the anterior chamber will be re-established in a shorter period.

Bristol Medico-Chirurgical Journal

September

35 Referred Cardiac Pain. F. G. Thomson.
36 Tuberculosis of the Colon. E. W. H. Groves.
37 Theoretical Considerations of Pulmonary Percussion Notes G. H. Almond.
38 Technic of the Radical Operation for Chronic Purulent Otitis-Media. P. W. Williams.
39 Sleep and the Modern Hypnotics. J. M. Fortescue-Brickdale.
40 Safety of the Patient in Anesthesia. J. Freeman.

The Journal of Hygiene, London

September

41 House-Flies as Carriers of Disease. J. T. C. Nash.
42 The Bleaching of Flour. W. D. Halliburton.
43 Evolution of Immunity in Disease. L. Noon.
44 *Absence of Respiratory Disorders in Those Inhaling Starch Dust Over Long Periods. W. P. Kaufmann.
45 *Influence of Heating on the Nutrient Value of Milk as an Exclusive Diet for Young Animals. J. E. Lane-Claypon.
46 Multiplication of Bacteria and the Influence of Temperature and Some Other Conditions Thereon. J. E. Lane-Claypon.
47 Physiologic Effect of Cobalt Carbonyl Vapor. H. W. Armit.

44. **Starch Dust.**—It is evident from Kaufmann's observations that while protracted inhalations of flour dust induce morbid changes in the respiratory system, those of starch granules (maize) practically in a pure state appear to exert no such adverse influence, *per se.* However, in cases in which an illness is not completely recovered from, a depression of vitality is maintained, and other intercurrent diseases may supervene as a result. The reason for this is strongly indicative that flour dust, on account of its glutinous content, and the nature of the gluten, forms an intractable dough with the body juices, and is converted into a mass which, not being amenable to lysis, remains behind, and becoming a "foreign body," sets up irritation of the parts. On the other hand, starch granules, *per se*, as in relatively pure maize starch granules, or even admixed with a very large preponderance of maize, "gluten," not tending to form a dough, are easy of access to, and are rapidly removed by some agency, and are not given the opportunity to become a foreign body and to set up irritation.

45. **Nutrient Value of Milk.**—Lane-Claypon found by experimentation that when the milk of another species is used, there is no marked nutritional difference between raw, boiled, or even sterilized milk.

British Journal of Children's Diseases, London

September

48 Congenital Heart Affections, Especially in Relation to the Diagnosis of the Various Malformations (continued). G. Carpenter.
49 Irreducible Intussusception in the Infant Treated by Ileocolic Anastomosis. H. Rutherfurd.
50 Hyperpyrexia Occurring in Childhood. J. Burnet.
51 The Differences Between the Sexes in the Development of Speech. E. Jones.
52 Existence and Results of Treatment of Pulmonary Tuberculosis in Children of School Age. E. G. H. Williams.

Archives Générales de Médecine, Paris

July, LXXXIX, No. 7, pp. 385-570

53 *Radioactivity. Matout.
54 *Radium Treatment of Cancer. Dominici.
55 *Radium in Treatment of Nervous Disturbances. P. Touchard.
56 *Radioactive Mud in Therapeutics. (Application des *boues radioactives en thérapeutique.*) O. Claude.
57 *Radium in Gynecology. Fabre.

58 *Radium in Treatment of Cancer of the Esophagus. Guisez.
59 *Radium in Treatment of Skin Diseases. (Applications du radium au traitement des maladies cutanés.) O. Claude.

53-59. **Medical Application of Radium.**—This number of the *Archives* is devoted to ten monographs on the application of radium in the treatment of nervous and skin affections and cancer and in gynecology. They are profusely illustrated and were presented at a series of conferences on radium held at the Museum of Natural History, Paris, where Becquerel first discovered the radiographic properties of the salts of uranium in research on phosphorescence; this was soon followed by the discovery of radium by the Curies. The first radiographic impression of the kind is reproduced, with Becquerel's memoranda on the margin. Touchard reviews his experience with radium treatment of various organic nervous affections, the effect, he says, being like that of "an intelligent bistoury which makes its way to the lesion and attacks it directly, without violent traumatism and without disturbing the sound tissues." Its special field seems to be in affections of a neoplastic origin, lesions in which embryonal tissue predominates. The rays from radium seem to display much greater penetrating power than the Roentgen rays, he remarks, the interposition of bones not interfering with their penetrating power to the same extent. Among the patients treated were two with sciatica or tabetic pain in the pelvis, both of whom had been much improved by application of the radium. In some cases of syringomyelia also, the applications of radium seemed to have a favorable influence on the gait and power of movement generally, while trophic disturbances retrogressed and the patients gained in strength. Favorable experiences with radium in treatment of gynecologic affections are reported by Fabre, who ascribes the benefit to the relief of the congestive inflammation and promotion of absorption and transformation of effusions. The radium rays seem to have an elective action on gonococcal ovarian, tubal and joint affections, and do good service when operative measures are contraindicated or to supplement them. Guisez has had occasion to treat with radium a number of patients with cancer of the esophagus out of nearly 500 whom he has examined with the esophagoscope during the last six years. He applied the radium tube directly to the inoperable cancerous growth and found that the cancer shrank under the influence of the rays, restoring partial permeability and affording great relief. The radium treatment must be energetic, using 8 or 10 cg. of radium bromid, introducing it into the esophagus for direct contact with the growth, controlled with the esophagoscope.

Archives des Maladies du Cœur, etc., Paris

September, II, No. 9, pp. 499-544

60 *Case of Chloroma. L. Stiénon.
61 *Acquired Pulmonary Stenosis. (Rétrécissement pulmonaire acquis.) V. Courtellemont.

60. **Chloroma.**—Stiénon's patient was a young man of 22, with symptoms for two years, first merely vague pains in the left hypochondrium and then enlargement of the spleen, which subsided to normal size for a brief period under radiotherapy, but then enlarged again. Extreme weakness and emaciation were the main symptoms when the patient entered the hospital; autopsy revealed multiple chloromas in the heart, pleura, kidneys, meninges and brain. Study of the case and comparison with others on record confirm, he thinks, the assumption that chloroma is a pigmented leucosarcomatosis which at any moment may entail a subacute leucemia from invasion of the blood by the lymphoid elements.

61. **Acquired Pulmonary Stenosis.**—No symptoms on the part of the cardiovascular system had been noticed in the case reported except that running, as a child, had been impossible on account of the speedy "loss of breath." The stenosis was an accidental discovery, and certain features of the case suggest that an attenuated tuberculous infection was responsible for it. The patient was a young woman of 24, supposedly healthy.

Lyon Chirurgical, Lyons

October, II, No. 5, pp. 523-650

62 *Inflammatory Stricture of the Pylorus. (Des rétrécissements inflammatoires du pylore et spécialement des formes tuberculeuses.) E. Villard.
63 Surgical Treatment of Adherent Pericardium and Mediastinopericarditis. R. Leriche and G. Cotte.

62. **Inflammatory Strictures of the Pylorus.**—Villard has encountered during the last few years seven cases of a tuberculous affection of the pylorus assuming the form of hypertrophy of the tissues in one instance, of infiltration in two, and of sclerosis in the others. It is possible, however, that these different forms are merely different stages of a single process. Gastroenterostomy is the only treatment, he says, or possibly subpyloric gastroduodenostomy in case of a merely fibrous stricture with limited and retrogressing lesions. It is possible that other infections may be responsible for the inflammatory stricture in some cases, but this has not been proved to date. The curative effect of simple gastroenterostomy renders more extensive intervention superfluous, the prompt recovery after diverting the course of the chyme shows that simple gastroenterostomy answered all the indications in the cases reported. In one case a large inflammatory tumor at the pylorus simulated malignant disease and what was supposed to be merely a palliative gastroenterostomy was done, but the tumor then subsided entirely. Two years later, the patient returned with another tumor in the laparotomy wound which proved to be merely an inflammatory reaction around some suture threads left from the gastroenterostomy. A year later a similar tumor developed again, and the operation revealed that it was due to the same cause, an inflammatory reaction to the suture thread of the second operation. The tumor masses both times were merely secondary inflammatory processes which simulated actual neoplasms. It is reasonable to assume that a similar process might develop from similar causes in the pyloric region and elsewhere without the intervention of the tubercle bacillus or its toxins. In two other cases, nervous symptoms predominated—daily vomiting resisting all medical measures. Laparotomy revealed slight anatomic changes in the pylorus and the disturbances subsided after the gastroenterostomy.

Lyon Médical, Lyons

September 19, XLI, No. 38, pp. 461-500

64 Scarless Healing of Suppurating Glands. (Guérison sans cicatrice des adénites suppurées.) Biot.

Presse Médicale, Paris

September 29, XVII, No. 78, pp. 681-688

65 *Early Diagnosis of Congenital Dislocation of the Hip-Joint. (Diagnostic précoce de la luxation congénitale de la hanche chez le jeune enfant.) J. Gourdon.

65. **Early Diagnosis of Congenital Dislocation of the Hip.**—Gourdon protests against the term "congenital dislocation" as he believes that there is no dislocation until the child begins to use its limb. The child is born, he asserts, with factors that entail dislocation later. He gives two illustrations of a simple test by which it is possible to detect the presence of these factors before there is any actual dislocation, their discovery pointing the way to effectual prophylaxis. As the child lies on the sound side, the affected thigh is flexed on the pelvis and the leg flexed on the thigh, the knee being in contact with the table. By grasping the knee as it touches the table on which the child lies, the normal thigh can be twisted inward only a certain distance, not more than 60 degrees from the plane of the table. When the head of the femur is abnormally movable, it is possible to twist the thigh over to an angle of 90 degrees from the plane of the table. This sign of the exaggerated inward rotation of the femur is useful not only for forewarning of congenital malformation in the hip, but it also reveals disturbances in the joint resulting from other affections, such as infantile paralysis, etc., before there is any sign of displacement of the femur. Bade's sign of congenital malformation of the hip joint is the lack of symmetry between the folds in the inguinal region on each side, and Hoffa regards certain cracking sounds sometimes heard in the joint as suggestive of congenital malformation.

Revue de Gynécologie, Paris

August, XIII, No. 4, pp. 563-752

66 The Normal and Anomalous Hymen in Virgins. (La forme de l'hymen chez la fillette et la vierge adulte. Les fossettes hyménales. Les brides hyméno-vaginales.) F. Jayle.
67 Ovarian Fibroma. Vautrin and Hoche.
68 Para-appendiceal Pseudocyst in Broad Ligament. M. Froget.
69 Abnormal Blood Vessels in the Kidney in Relation to Hydronephrosis. (Les vaisseaux anormaux du rein et l'hydronéphrosé. E. Papin and F. Iglesias.
70 *Acute Hemorrhagic Pancreatitis. R. Leriche and L. Arnaud.

70. **Acute Hemorrhagic Pancreatitis.**—Leriche reports two new cases and adds comprehensive summaries of the cases that have been reported since 1906—a total of fifty-three. In his first case there was no trace of fat tissue necrosis observed at the laparotomy done on account of supposed peritonitis and occlusion; the pancreas was not examined. The true source of the acute hemorrhagic inflammation was not discovered until autopsy. The fat tissue necrosis in the second case attracted attention to the pancreas at once when the abdomen was opened. The pancreas was dilacerated and drained, but the patient succumbed the third day to hematemesis. The lessons that may be drawn from the entire material of 53 cases are to be presented in a later article for which this communication forms the basis.

Revue de Médecine, Paris

September, XXIX, No. 9, pp. 673-752

71 *Regional Atrophy of the Kidney. (L'atrophie scléreuse régionale du rein par thrombose artérielle.) W. Alexieff.
72 *Pathogenesis of Orthostatic Albuminuria. G. Turrettini.
73 Thirty-five Years in the Vaccination Service. Goldschmidt.
74 *Influence of Tincture of Cantharides on Permeability of Kidney in Epithelial Nephritis. Macaroff.

71. **Regional Atrophy of the Kidney.**—Alexieff describes a typical case of circumscribed sclerous atrophy of the kidney, of arterial origin, independent of any chronic inflammation of the organ. He discusses the points that differentiate this from regional atrophy due to an embolic infarct. Thrombosis of the renal arteries causes great variability in the amount of urine voided in the twenty-four hours; sometimes the amount drops to a fourth, and this oliguria persists for about four days, after which the amount of urine rapidly increases to the preceding quantities. In the case described, the amount of urine dropped abruptly to less than a quart and kept at this point for four days, after which it increased to the preceding average of two or three quarts. During this interval, the patient felt about as usual. There was no disturbance in the general health, except possibly a slight tendency to unusual nervousness, but there was considerable retention of chlorids during this period of oliguria. While the density of the urine increased, the chlorids dropped from 11.63 gm. to 3 gm. In a test of the permeability of the kidneys the elimination of the methylene blue was abnormally retarded; it did not commence until after ten hours, then continuing for six hours, after which all trace of the stain vanished from the urine for eighteen hours. Then elimination recommenced and continued strong until all the stain had been eliminated after another brief interval of suspension. Patients with this form of kidney disturbance usually present other signs of atheromasia of arteries of a certain size, especially those at the base of the brain, in the limbs, possibly also in the coronary or gastric arteries. A sudden decline, therefore, in the amount of urine voided, unaccompanied by uremic symptoms or signs of asystoly, should suggest the possibility of a focus of thrombosis in one or both kidneys. It is not accompanied by acute phenomena, sudden pain in the lumbar region or transient hematuria; the thrombotic process develops slowly without signs of insufficiency on the part of the kidney.

72. **Orthostatic Albuminuria.**—Turrettini noted albuminuria in four girls between 12 and 16, nervous and anemic, but the albuminuria disappeared when the girls remained in bed. There was nothing but the albumin to indicate anything wrong in the kidney or circulation. The albuminuria could be induced at will by inducing lordosis. During the years of most active growth the vertebræ are not supported so firmly as later in life, and the physiologic curve of the spine becomes exaggerated by the laxness of the ligaments, etc. This interferes with the circulation in the kidneys, the same causes operating, perhaps, to render the latter also abnormally movable. The patients with this form of albuminuria are generally inclined to nervousness and anemia—all probably the result of the excessive and possibly inharmonious growth of certain parts during these years.

74. **Treatment of Nephritis with Cantharides.**—Macaroff expatiates on the stimulating action of tincture of cantharides on the functioning of the kidney, enabling the organ to throw off the substances which in case of nephritis are usually retained in the organism. Very small doses, not over 4 or 5 drops of the tincture of cantharides, during the twenty-four hours, were given during seven or eight days, and the results in the eleven cases of subacute or chronic epithelial nephritis reported and two of interstitial nephritis, encourage, he thinks, the more general adoption of this method of treatment. The specific elements of the kidney tissue feel the effects of the cantharides most; this influence is manifested in an increased diuresis and increased elimination of chlorids and urea if the specific elements of the kidney are still capable of responding to stimuli. Of course this treatment is contraindicated in an acute process with much irritation, but in the subacute and chronic atrophic cases, when the permeability is becoming impaired, this treatment stimulates the torpid epithelial and interstitial cells to more active functioning. Small doses of the tincture, not more than from 1 to 5 drops a day, have no injurious action on the kidney tissue in these conditions.

Semaine Médicale, Paris

October 6, XXIX, No. 40, pp. 469-480

75 Gaseous Abscess Extending in Front of and Behind the Sternum, with Positive Agglutinating Findings for Anaërobes. (Abcès gazeux présternal et rétrosternal par infection anaérobique. Sérodiagnostic anaérobique.) A. Chauffard and J. Troisier.

Beiträge zur Klinik der Tuberkulose, Würzburg

XIV, No. 1, pp. 1-96. Last Indexed October 9, p. 1240

76 Experiences with the Intracutaneous Tuberculin Test. (Zur Verwertung der intrakutanen Reaktion auf Tuberkulin.) P. H. Römer and K. Joseph.
77 *Tuberculin Test by the Mouth. (Zur Diagnostik der Tuberkulose durch innerliches Einnehmen von Tuberkulin.) T. Sato.
78 *Hypersusceptibility Induced by Cutaneous Tuberculin Test. (Ueber Sensibilisierung bei der kutanen Tuberkulinreaktion.) V. Ellermann and A. Erlandsen.
79 Diagnostic Value of Various Early Symptoms of Tuberculosis. (Kritische Betrachtungen der Symptome der Lungentuberkulose, vorwiegend der Frühsymptome.) F. L. Baumann.
80 Th[illegible] Substance in the Serum of Tuber- [illegible] Kenntnis der mit Tuberkulin kom- [illegible] im Serum tuberkulöser Kinder.) R. Fua and H. Koch.
81 *Agglutination Test on Tuberculous Children. (Ueber Agglutination bei tuberkulösen Kindern.) O. Grüner.

77. **Tuberculin Test by the Mouth.**—Sato reports the results of the tuberculin test by ingestion of the tuberculin, as applied to 12 healthy persons, 10 patients with phthisis, 1 with tuberculous peritonitis, and 16 with some non-tuberculous affection. He gave the tuberculin between 4 and 5 p. m., to ensure that the stomach was comparatively empty, commencing with 0.001 gm. "old" tuberculin in a capsule, and increasing the dosage as for the subcutaneous test. If no reaction is observed even with 0.01 gm. tuberculin, he regards tuberculosis as excluded. Among the various advantages of this technic are that the test can be made without the patient's knowledge. Positive findings were never obtained in the non-tuberculous, but, with two exceptions, constantly in the tuberculous. He gives a typical curve to show how the reaction to the ingestion of the tuberculin, paralleled to the smallest details the curve obtained by subcutaneous injection of tuberculin in the same patient during the following month. The only difference was that the febrile reaction to the largest dose was a little more pronounced by the mouth than by the subcutaneous technic.

78. **Hypersusceptibility Induced by Cutaneous Tuberculin Test.**—Ellermann and Erlandsen have called attention to the difference in the local response to different concentrations of tuberculin in proportion to the difference in the intensity of the tuberculous process. The technic of their graduated quantitative tests was mentioned in THE JOURNAL, May 15, 1909, page 1634. They here call attention to the change in the results obtained in some cases with these tests repeated after a certain interval, the change suggesting that the organism had acquired a special hypersusceptibility under the influence of the tuberculin used in the first tests. This anaphylactic action of the tuberculin was not manifested in the tuberculous-free organism. It was not confined to the part involved, but seemed to be a universal sensitization. It was pronounced in 84 per cent. of the 50 cases while a tendency was perceptible in 8 per cent. more. The degree of sensitization ranged from 10 to 1,000 per cent. An interval of a few days was required for its development, but the interval is shorter than that required for development of serum-anaphylaxis. The particulars of the comparative tests are tabulated.

81. **The Agglutination Test in Tuberculous Children.**—Grüner reports extensive research which shows that agglutination of killed and ground tubercle bacilli by diluted human serum must not be regarded as a specific phenomenon in the sense that it is dependent on the presence of some tuberculous lesion in the organism. But, at the same time, it cannot be a merely casual occurrence, as the agglutinating property can be enhanced by injection of bacillus substance in the form of "new" tuberculin or "bacillus emulsion." The fact of this influence maintains the interest for this agglutinating test although it has as yet no practical importance for the diagnosis and treatment of tuberculosis.

Berliner klinische Wochenschrift

September 27, XLVI, No. 39, pp. 1757-1796

82 *Cleft Palate. (Meine Erfahrungen bei 53 Gaumenspalt-Operationen mit technischen Mitteilungen.) C. Helbing.
83 *Deep Application of Heat by Electricity. (Zur Verwendung der Wärmedurchstrahlung; Thermopenetration.) V. Klingmüller and F. Bering.
84 *Hygroma of the Shoulder Bursa. (Zur Klinik der Reiskörperhygrome der Schulterschleimbeutel.) K. Hirsch.
85 Displacement and Transformation of Epithelium. (Epithelheterotopie und -metaplasie.) Munter.
86 Composition of the Opsonins. (*Zum Bau der Opsonine.*) H. Reiter.

82. **Operation for Cleft Palate.**—Helbing's article was presented at the recent international dental congress at Berlin; it reviews his experience in fifty-three cases, with success in 75 per cent. He has found that the speech seems to be better the younger the patient at the time of the operation, while the technic is no more difficult in children under three months if correspondingly small instruments are used. By an early operation the child escapes many dangers to which it otherwise would be exposed, defective feeding, choking, infections in the respiratory and digestive organs, and otitis. The mortality of young infants with cleft palate not operated on is extremely high. As a rule, he operates at two sittings.

83. **Deep Application of Electric Heat.**—In order to obtain the benefits of "thermopenetration" without burning the skin, Klingmüller interposes a sponge moistened with salt solution between the electrode and the skin. It is thus possible to pass a current up to 1 ampere through a joint. The results were not satisfactory in recent gonorrheal epididymitis, as the heat seemed to mobilize the gonococci, but gonorrheal joint affections seemed to be favorably influenced. The pain vanished in two sittings and the joint became more movable. Similar benefit was observed in old rheumatic joint affections.

84. **Rice-Body Hygroma of the Shoulder Bursa.**—In the case discussed by Hirsch the hygroma protruded both front and rear; the process was further remarkable by the lack of any fluid with the rice-bodies.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

September 25, XII, No. 17, pp. 641-688

87 *Intermittent Limping. (Ueber intermittierendes Hinken: Claudication intermittente Charcot's.) R. Köhler. Commenced in No. 15.
88 *Flatfoot in Its Relation to Nervous Affections. (Der Plattfuss in seinen Beziehungen zur nervösen Erkrankungen.) Muskat.

87. **Intermittent Limping.**—Köhler summarizes the conclusions of 149 articles from the literature, discussing the pathologic anatomy and differential diagnosis in particular. A number of terms have been suggested since Charcot borrowed from the veterinarians the new term "intermittent claudication," but later discarded it for "intermittent ischemic obliterative painful paralysis." Erbs calls it "intermittent angiosclerotic dysbasia;" Manteuffel prefers the term "arteriosclerotic rheumatism;" Grassmann "intermittent arteriosclerotic muscular paresis;" Higier "paroxysmal angiosclerotic myasthenia;" Determann "intermittent akinesia or dyskinesia," and Paul "angina cruris." Nineteen different affections with which it might be confounded are compared with it. The lack of the pulse in the arteries of the foot or leg should suggest this disturbance, confirmed by Roentgen findings of changes in the arteries of the foot, but the principal feature of this affection is the complete subsidence of disturbances during rest and their periodical return after exertion. In treatment, potassium iodid on suspicion of syphilis, and regulation of the diet to avoid foods that act on the vasomotors are important. Special attention should be paid to avoidance of cold-water "cures," overexertion and worry. Alcohol and tobacco should be avoided; some accept nicotin as the direct cause. Similar disturbances may be observed in the intestines and heart; when in the legs, there is intermittent limping; in the stomach and intestines there are paresis and meteorism; in the heart, sudden insufficiency or paralysis—all organs capable of sensory phenomena showing such in connection: cramps in the muscles, paresthesia in the skin, sense of oppression in the heart region, with more or less pain. Wagenmann has reported a case of what he called intermittent claudication of the retina, and Ortner one of transient paralysis, pain and meteorism in the small intestine and ascending colon, evidently connected with an affection of the superior mesenteric artery.

88. **Flatfoot in Relation to Nervous Disturbances.**—Muskat has frequently found that symptoms of neurasthenia vanished when existing flatfoot was corrected, and he urges neurologists and others to record the proportion of neurasthenics who have flatfoot and the number relieved of their nervous disturbances on correction of the foot trouble. He gives the anatomic reasons why the disturbance in the foot may entail sciatica and joint pains, their connection with the foot trouble being confirmed by the reappearance when the flatfoot recurs. He also frequently found that beginning flatfoot causes subjective disturbances for which no objective symptoms can be determined; many discouraged neurasthenics can be restored to health and happiness if it becomes the routine practice to examine the feet, even eventually with the Roentgen rays, to detect a tendency to flatfoot. Certain women of the upper classes who are a torment to themselves, their physician and their family by their never-ending complaints of indigestion, pains, etc., frequently suffer from flatfoot, and the correction of this disturbance frees them from all their other troubles. Ehrmann in the course of fifteen years encountered 120 patients with neuralgiaform pains in the pubic and inguinal regions, accompanying flatfoot. In the effort to step with as little pain as possible, the thigh is thrown into adduction, which pulls on the tissues and drags on and irritates the nerves. The flatfoot is readily recognized by the patient's gait and the convex inner outline of the foot. In normal conditions this forms a straight or concave line. In Austria, 33 per thousand of the recruits have to be rejected on account of flatfoot. Muskat does not discuss the treatment except that he warns that it is not enough to refer the patient to a shoemaker for an ordinary flatfoot insole. In sciatica, special attention should be paid to a possible flatfoot. On the other hand, incipient tabes may be mistaken for flatfoot, or vice versa. In differentiating this condition it is important to bear in mind gonorrheal joint affections, deforming arthritis, periostitis, gout, arteriosclerosis and intermittent limping, in addition to the affections already mentioned.

Correspondenz-Blatt für Schweizer Aerzte, Basle

October 1, XXXIX, No. 19, pp. 649-688

89 Transplantation of Bones and Organs. G. Hotz.
90 *Etiology of Hernias. C. Widmer.

90. **Etiology of Hernias.**—Widner protests against the current household practice of applying an inelastic band to the infant's abdomen as it tends to push the viscera downward and to produce a tendency to hernia. Normally, the infant abdomen forms an inverted cone, as it were, with the largest circumference near the costal arch; the inguinal region is comparatively empty of contents; the walls are depressible. With the tight "belly-band" the viscera are forced down into this region and the abdominal wall here is stretched taut and offers resistance to the finger. He does not accept the possibility of a truly congenital hernia; the hernia is always acquired later, he asserts, and the conditions produced by the traditional "belly-band" favor its production when the region is exposed to mechanical stress in later life.

Deutsche medizinische Wochenschrift, Berlin

September 30, XXXV, No. 39, pp. 1681-1728

91 *Thrombotic Obliteration and Transformation of Portal Vein. (Zur thrombotischen Obliteration und kavernösen Umwandlung der Pfortader.) W. Risel.
92 Goiter Operations Under Local Anesthesia. (Kropfexzisionen unter Lokalanästhesie.) Hackenbruch.
93 The Trachoma Corpuscles. (Die "Trachomkörperchen.") B. Heymann.
94 Atypical Bacillary Dysentery in an Insane Asylum. (Atypische Bazillenruhr in einer Irren-,Heil- und Pflegeanstalt.) K. Heuser.

95 Importance of Wassermann Reaction in Rhinology and Laryngology. J. Weinstein.
96 Serodiagnosis of Syphilis in Prostitutes. Dreyer and Meirowsky.
97 Differential Diagnosis Between Wandering Kidney and Movable Intra-abdominal Tumors. Kudlek.
98 Influence of Roentgen Rays on Lung Tissue. (Einfluss der Röntgenstrahlen auf das Lungengewebe.) F. Wohlauer.
99 *Case of Glycerin Addiction. (Fall von Glyzerinzucht.) F. Schmey.

91. **Obliteration of the Portal Vein.**—Risel describes in detail a case of fatal hemorrhagic infarcts and gangrene of the small intestine from recent thrombosis of the mesenteric vein. This was probably the result of an old change in the portal vein, the result of thrombotic occlusion of the vein trunk with subsequent organization and tunneling of the thrombus. This process had caused no symptoms unless possibly in early childhood a transient enlargement of the abdomen following scarlet fever can be regarded as such. The patient was a childless woman of 34, and four dermoid cysts were found in the ovaries.

99. **Glycerin Addiction.**—Schmey reports a case in which a young man was in the habit of drinking large amounts of glycerin every day, up to about 33 ounces. He had commenced the practice about four months before, having been told that "glycerin was good for the nerves." Some writers have mentioned that glycerin produces a kind of exhilaration like alcohol, and this intoxication was probably the incitement to the addiction. After drinking the glycerin he said his head felt heavy and he had to lie down. The family complained of his growing irritability and his demands for or stealing of money to buy the glycerin. The man was pale and slightly jaundiced, somewhat languid, with distinct dermography; the left knee jerk was normal, the right attenuated; the liver extended below the costal arch but was not tender; the urine was normal and the appetite fair. He refused to see the physician further after the first examination.

Medizinische Klinik, Berlin

September 26, V, No. 39, pp. 1466-1500

100 Treatment of Infected Wounds. (Behandlung infizierter Verletzungen.) A. Most.
101 What Characterizes Hysteria? S. Meyer.
102 *Etiology of Intercostal Neuralgia. H. Bach.
103 *Treatment of Lupus. (Behandlung des Lupus vulgaris.) E. Finger. Commenced in No. 38.
104 *The Mind of Anthropoid Apes. (Zur Frage des Geisteslebens der Menschenaffen.) A. Sokolowsky.
105 Terminal Nerve Organs and Muscle Fibers. (Nervenendorgan und Muskelfaser.) F. B. Hofmann. Commenced in No. 38.
106 *Lessons from the Cholera Epidemic at St. Petersburg. (Die Cholera indica in St. Petersburg 1908-9.) V. R. Stuhlern. Commenced in No. 38.
107 Paracelsus and His Conception of Diseases, etc. (Ueber Paracelsus und die tartarischen Krankheiten.) P. Richter. Commenced in No. 38.

102. **Etiology of Intercostal Neuralgia.**—Bach reviews the various theories in regard to the origin of intercostal neuralgia, but does not accept any of them unreservedly. On the other hand, his clinical experience suggests that mechanical conditions are mainly responsible. In six rather corpulent women, none held herself erect, the stooping attitude pressing the ribs on the intercostal nerves or exerting traction. This assumption was confirmed by the benefit realized when the patients learned to stand straight. Prophylaxis and treatment should thus be directed against the spine.

103. **Treatment of Lupus.**—Finger concludes this review of what has been and can be accomplished in the treatment of lupus with the statement that it is unwise to try to establish special lupus institutes. The money which such would cost would better be applied to provide a number of hospitals with the Finsen apparatus, etc., so that patients can be treated near their homes.

104. **Mental Operations of Anthropoid Apes.**—Sokolowsky has devoted considerable attention to study of the ape mind. Animals communicate with each other by movements, and he has been much interested in this subject as investigated in a large enclosure containing 700 monkeys. He is convinced that study of the anthropoid apes might lead to valuable discoveries for science, and suggests that those best fitted for this task are persons accustomed to training the deaf and dumb. This language by gestures might also be interestingly studied in the primitive races, bushmen, etc.

106. **Cholera in Russia.**—The various experiences with different preventive and curative serums and therapeutic measures during the epidemic of cholera that has been prevailing in Russia for over a year are reviewed. None seems to have displayed striking efficiency.

Münchener medizinische Wochenschrift

September 28, LVI, No. 39, pp. 1985-2040

108 *[illegible] Bacilli. G. Deycke and H. Much.
109 *[illegible] in Internal Medicine. L. Saathoff.
110 [illegible] g. (Rolle des Elweiss in der Säug- [illegible] osser.
111 [illegible] Accord- [illegible] kalopera- tion der Leistenhernie
112 Presenile Gangrene fro[illegible] chümann.
113 Psychogenic Etiology and Psychotherapy of Painful Spasm of the Vagina. (Vaginismus.) M. Walthard.
114 Direct Sunlight in Therapeutics. (Neuere Erfolge und Erfahrungen aus den Gebiete der Heliotherapie.) C. Widmer.
115 [illegible] Foot. (Behandlung des [illegible]
116 *[illegible] ry of Limb by Incision [illegible] onservativen Therapie und drohender Gan- [illegible]
117 [illegible] H. Steinert. Commenced in No. 38.

108. **Bacteriolysis of Tubercle Bacilli.**—Deycke announces that two elements of the brain tissue, cholin and neurin, are able in a 25 per cent. solution to destroy tubercle bacilli in a few minutes. He was unable to discover any strain of tubercle bacilli which could not be destroyed by cholin or neurin. The bacilli thus dissolved form a vaccine with which he is now experimenting, the results to date surpassing all his expectations, he declares.

109. **The Wassermann Reaction in Internal Medicine.**—Saathoff insists that the greatest value is when the findings can be compared step by step with the clinical picture and postmortem data. In his extensive experience he has never encountered a case of active syphilis with a negative reaction, so that he is inclined to exclude syphilis entirely when the reaction is negative and there are no clinical manifestations. In a recent case a papulous exanthem had begun on the genitals and the patient was sent to the syphilis ward, but the Wassermann reaction was negative and the course of the case differentiated the affection as lichen ruber. It is easy to imagine the possible consequences of such a mistaken diagnosis which only the Wassermann reaction can prevent. With aneurism of the aorta, the Wassermann reaction has also nearly as decisive importance. In a recent case of aortic insufficiency the reaction was negative, but the lack of other factors had led to the diagnosis of a syphilitic origin. Autopsy, however, failed to disclose any evidence of syphilis; the aorta was absolutely smooth. In liver and kidney affections the test is also a useful guide; the findings were positive in 6 cases of liver affections, in 10 cases of nephritis, as also in 3 cases of paroxysmal hemoglobinuria. The reaction, he adds, can also be a guide into an unexplored region in which clinical diagnosis fails us. For instance, an apparently healthy young woman had been suffering from headache daily for a year, with recurring subfebrile temperature. There was nothing to indicate tuberculosis or syphilis, but a positive Wassermann reaction threw light on a certain liver affection in the husband several years before, which had roused suspicion of syphilis. The reaction was also positive in a case of a supposed tuberculous bone affection for which the patient, a young man, was just commencing a course of tuberculin. The strong positive reaction was explained later by the discovery that the father had had a syphilitic spinal affection. The pupils confirmed the diagnosis of inherited syphilis. Saathoff is now making a practice of applying the test to all the patients in his service, and has been amazed at the frequency of the positive reactions which threw light on a number of previously obscure affections. The Wassermann test not only elucidates old problems, but reveals new ones where none was suspected. It begins to be most interesting where clinical investigation has previously reached its limits.

116. **Treatment of Threatening Gangrene.**—Knoke has applied the Noesske technic described in Abstract No. 124, below, for preventing gangrene after serious injury of the fingers. The finger in this case had been cut off and was

hanging merely by a strip of skin; he replaced it, incised down to the bone over the tip of the finger and applied the suction apparatus as Noesske directs. The finger healed promptly in place.

Wiener klinische Wochenschrift, Vienna

September 30, XXII, No. 39, pp. 1323-1358

118 Varicella and Herpes Zoster. (Aetiologischer Zusammenhang der Varizellen mit gewissen Fällen von Herpes zoster.) J. v. Bokay.
119 Multiple Cartilaginous Exostosis and its Connection with Rachitis. A. Flinker.
120 Bacteriologic Research on Poliomyelitis. (Heine-Medinsche Krankheit.) K. Potpeschnigg.
121 *Form of False Dyspnea. (Seufzerkrampf.) M. Herz.
122 *Experiences with Spinal Anesthesia. (Ueber 1,100 Falle von Lumbalanalgesie.) F. Colombani.
123 Chronic Polyserositis and Gram-Positive Diplococci in the Effusion. O. Lonhardt.

121. **Sighing Spasm.**—Herz has encountered several cases of a pathologic exaggeration of sighing which simulates dyspnea of organic origin. He describes four cases in detail to sustain his assumption that the spasm in question is a psychogenic neurosis. In three cases the attacks occurred in women over thirty; one had been under great emotional stress. In all these cases the neurosis was superposed on an actual heart affection, but he was able to separate the syndrome of the two. One patient had an attack in his office; the sighing increased in intensity, the head was thrown back, the entire body shaken by the intensity of the inspirations, the attack ending with a tremendous yawn, after which there was no further trouble. There was no change in complexion or pulse; the affection had been diagnosed previously as the Cheyne-Stokes' syndrome. The case was interesting further on account of the wide difference between the patient's account of the attacks and what Herz saw with his own eyes. One of the patients was a man of 40, suffering from dread of a septic affection of the heart, as he had a feeling of oppression in the heart region several weeks after a slight wound on his hand; yawning and sudden gasping for air were the symptoms in this case, soon cured by change of scene, valerian and hydrotherapy. Mere emotions are often able to exaggerate the contractions of the diaphragm to a fatiguing extent; in some persons this occurs with every exciting conversation.

122. **Spinal Anesthesia.**—Colombani reports 1,100 cases of spinal anesthesia without any serious mishap, except that sciatica developed afterward in a man operated on for bladder stone, although a rheumatic origin for the pains was possible. In two cases a psychosis developed later, paranoia terminating in suicide in one and depressive mania in the other. The psychiatrists consulted did not consider the spinal anesthesia responsible for the mental trouble, as there was an inherited tendency, but these cases alarmed him so that he now draws the line of indications very closely. It is possible that mental disturbances may develop a long time afterward, and the connection with the nerve trauma of the spinal injection be quite overlooked. He warns against this method of anesthesia unless the general or local technic is inadvisable, and he would never use it for children under 17, nor for operations above the umbilicus or extensive laparotomies. The patient should lie horizontal, with head slightly raised. He warns against this method also for patients with septic processes, for syphilitics, as the injection might make a point of lowered resisting power, and for nervous patients.

Zentralblatt für Chirurgie, Leipsic

October 2, XXXVI, No. 40, pp. 1377-1400

124 *Conservative Treatment of Severe Injuries of the Limbs and [illegible] konservativen Behandlung und gangränverdächtiger [illegible]
125 Fr[illegible] (Zur Frage der freien [illegible] W. Kausch.

124. **Conservative Treatment of Severe Injuries of Fingers and Limbs and Impending Gangrene.**—Noesske attributes the gangrene after severe injury of the limbs to the lack of fresh arterial blood and the insufficient drainage away of the venous blood. The venous stasis is often the most prominent symptom of severe injury and freezing of fingers, hands or feet. None of the means used to date combats this effectually in all cases, especially when it is desired to replace a severed finger. The arterial blood-stream is unable to overcome the resistance of the venous congestion, particularly as the veins are partly collapsed, thrombosed, the sides stuck together or the lumina clogged. If it is possible to overcome this venous stasis rapidly and permanently, and to increase the supply of arterial blood, the tissues in the region become well nourished and are kept from decay. All this can be accomplished, he has found, by a deep incision down to the bone, then tamponing the wound with gauze dipped in camphorated oil to prevent its sticking together, and then covering the part with a suction bell, connected with a hydrant to maintain the vacuum, with a negative pressure of from 12 to 15 cm. mercury. This aspiration is repeated two or three times a day for eight or ten minutes for about a week. The application of the suction alone does not answer the purpose; the incision is the main thing. In one case of freezing of both thumbs and in one of threatening gangrene in Raynaud's disease, he made the incision over the tip of the finger, cutting down to the bone both front and back. Sensibility returned in a few hours and the finger was saved, while the incision healed smoothly. The conditions for success are early incision, absolutely open treatment of the wound, and refraining from any suturing for several days to prevent any opportunity for retention and infection. His experience to date has been limited to fingers, but he suggests that it is possible that this same technic might render good service in threatening gangrene or loss of vitality in tissues elsewhere.

Zentralblatt für Gynäkologie, Leipsic

October 2, XXXIII, No. 40, pp. 1385-1416

126 *Comparison of the Results of Various Methods of Surgical Treatment of Uterine Cancer. (Vergleichende Schätzung der verschiedenen Methoden chirurgischen Behandlung des Gebärmutterkrebses.) D. v. Ott.
127 Spontaneous Tearing Out of the Umbilical Cord. (Spontane Zerreissung der velamentös inserierten Nabelschnur.) M. Semon.

126. **Comparison of the Various Methods of Surgical Treatment of Uterine Cancer.**—Ott compares the statistics of Wertheim, Staude and Schauta with the enlarged methods and his own simple vaginal method, the outcome apparently speaking in favor of his technic. The primary mortality was only 2.1 per cent., and 36.2 per cent. of his 191 patients operated on more than five years ago are still free from recurrence. This is a smaller proportion than other surgeons show, but it is much larger when the difference in the primary mortality is taken into consideration: 2.1 per cent. in his 191 cases, while it ranged from 15.5 per cent. to 23.3 per cent. in the 116, 58 and 47 cases of the other surgeons. In order to insure one and one-half times better promise of radical cure, he asks, is it wise to advocate other technics with eleven times greater direct danger?

Gazzetta degli Ospedali, Milan

September 30, XXX, No. 127, pp. 1233-1240

128 Pathogenic Connection Between Polymorphous Erythema and Tuberculosis. G. Alessandri.

October 3, No. 118, pp. 1241-1256

129 *Protrusion and Depression of Chest with Pneumothorax. (Un nuovo segno fisico dello pneumotorace.) G. Spadaro.

129. **Sign of Pneumothorax.**—Spadaro noted a protrusion of the chest wall in the lower region in front, which appeared as the patient reclined and vanished as he stood erect, leaving a depression in its place, as he shows in two illustrations. He accepts this as a sign of an enclosed pneumothorax, and discusses the points which differentiate it from a subphrenic pyoneumothorax, etc., with which it might be confounded.

Policlinico, Rome

October 3, XVI, No. 40, pp. 1253-1284

130 *Carcinoma of the Male Breast. (Contributo alla casistica dei carcinomi della mammella maschile.) D. Ottolia.

130. **Cancer of the Male Breast.**—Ottolia has encountered in the last five years three cases of carcinoma in the left male breast and twenty-seven cases of cancer of the female breast. In one year one man and three women comprised the patients in this class, so that the male cancers formed 25 per cent. of the total encountered; in the total five years the proportion was 11 per cent. His male patients were between 55 and 75

years old, and one of them was in good condition a year later; one has been lost sight of; the third succumbed to thrombosis of the mesenteric vessels two weeks after the operation.

Hygiea, Stockholm

August, LXXI, No. 8, pp. 769-878

131 Myoma Complicating Pregnancy and Delivery. *(Om myom som* komplikation under hafvandeskap och förlossning.) L. Lindquist.

132 Mechanism of Constipating Action of Morphin and Opium. (Om mekanismen af morfinets och opiets stoppande verkan.) C. G. Santesson.

133 Two Cases of Twins with Single Amnion. (Två fall af enäggiga *tvillingar* med gemensam amnion och sammanknutna nafvelsträngar.) G. Pallin.

134 *Diabetes Mellitus in Early Childhood. (Diabetes mellitus i [illegible]) P. Landahl.

135 " Lactation. (Menstruationens förhållande O. Sundin.

134. Diabetes in Children.—Landahl has encountered six cases of diabetes in children from 10 months to 16 years old. In four the children were not seen until the disease was in such an advanced stage that death soon followed. In a fifth case a female child of 14 months presented considerable glycosuria, the exact proportion not determined. There had been no preceding infection except influenza a few weeks before, and the child was brought for medical advice merely on account of bilateral cataract. On a diet free from carbohydrates the sugar disappeared permanently from the urine in a few weeks and the child has been in good health for thirteen years to date. The sixth little patient was a male child nearly 2 years old who had been kept in fairly good condition for three years by regulation of the diet. When the proportion of sugar is high the child feels sick, but the subjective health improves parallel with the reduction of the amount of sugar in the urine. In treatment of juvenile diabetes he warns that the cocoa on the market is liable to be mixed with carbohydrates and consequently should be selected with care; pure cocoa with cream can generally be allowed. He emphasizes the necessity for routine examination of the urine of children as this will reveal many unsuspected cases of diabetes, and the chances for a complete cure are better the earlier treatment is commenced. Children in families with a tendency to diabetes should be supervised with exceptional care and warned against sweets. Even in the healthy, he says, ingestion of 100 gm. of sugar on the fasting stomach will induce glycosuria; it soon subsides unless there is a predisposition to diabetes, in which case it is liable to persist and induce diabetic symptoms. Consequently families with a history of diabetes should be warned against sweets, especially on an empty stomach. If a reducing substance should be found in the urine after eating a sweet article of food, all sweets should be forbidden and the diet carefully regulated. The general measures found useful in tuberculosis should be applied also in juvenile diabetes, especially abundance of fresh air day and night and avoidance of all mental and physical effort. In his sixth case the child's maternal grandfather and great-grandfather had been diabetics, but the infant had developed normally until the twenty-first month, when it began to pine and 1.5 per cent. sugar was found in the urine and the acetone reaction was positive. Everything that contained sugar was excluded from the diet and sodium bicarbonate given. The specific gravity of the urine ranges from 1.020 to 1.032, but there has never been excessive thirst or polyuria. The child is now approaching the age of 5; the tolerance for carbohydrates is still very low, although higher than formerly. Glucose appears in the urine if the limit of tolerance for carbohydrates is overpassed, and sometimes then, especially if the child is tired, he vomits. The boy is now 43.3 inches tall and weighs about 37 pounds. He can play out of doors for hours at a time and take walks without much fatigue. Landahl's fifth case resembles that reported by Schmitz in which the wife of a diabetic feared that her little son might have inherited the tendency, and she had his urine examined frequently, but always with negative findings until the child had an attack of "gastric fever," when 5.8 per cent. sugar was found in the urine. On a strict antidiabetic diet the glycosuria subsided in less than a month, and there has been no recurrence during the twenty years since, with unrestricted diet

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

STUDIES ON LEPROSY. V. A Report on the Treatment of Six Cases of Leprosy with Nastine (Deycke). By Walter R. Brinckerhoff, S.B., M.D., Director Leprosy Investigation Station, Public Health and Marine-Hospital Service, and James T. Wayson, M.D., Member of the Board of Health of the Territory of Hawaii Honolulu, Hawaii. VI. Leprosy in the United States of America in 1909. By Walter R. Brinckerhoff, S.B., M.D., Director Leprosy Investigation Station, Public Health and Marine-Hospital Service. Paper. Pp. 24, with illustrations. Washington: Government Printing Office, 1909.

BEITRÄGE ZUR PHOTOGRAPHIE DER BLUTSPEKTRA, unter Berücksichtigung der Toxikologie der Ameisensäure. Von Reg.-Rat Dr. med. E. Rost. Mitglied d. k. Gsndhtsamte. und Dr. med. Fr. Frantz, ständ. Mitarbeiter im k. Gsndhtsamte., und Dr. phil. R. Heise, technischem Rat im k. Gsndhtsamte. Paper. Pp. 304, with 15 illustrations. Price, 9 marks. Reprint from Arb. a. d. k. Gsndhtsamte, XXXII, No. 2. Berlin: Verlag von Julius Springer, 1909.

ATLAS OF EXTERNAL DISEASES OF THE EYE. By Dr. Richard Greeff, Professor of Ophthalmology in the University of Berlin and Chief of the Royal Ophthalmic Clinic in the Charité Hospital. Only Authorized English Translation by P. W. Shedd, M.D., New York. Half leather, with 54 plates and 84 figures in color. Pp. 135. Price, $10. New York: Rebman Co.

THE ENZYME TREATMENT FOR CANCER. By William Seaman Bainbridge, A.M., Sc.D., M.D., Scientific Report on Investigations with Reference to the Treatment of Cancer. Paper. Pp. 34. Published with the Authority of the Committee on Scientific Research of the New York Skin and Cancer Hospital. No. 1.

RENAL, URETERAL, PERIRENAL AND ADRENAL TUMORS AND ACTINOMYCOSIS AND ECHINOCOCCUS OF THE KIDNEY. By Edgar Garceau, M.D., Visiting Gynecologist to St. Elizabeth's Hospital, and to Boston Dispensary, Boston, Mass. Cloth. Pp. 404, with 72 illustrations. Price, $5. New York: D. Appleton & Co.

CHEMICAL AND MICROSCOPICAL DIAGNOSIS. By Francis Carter Wood, M.D., *Professor of Clinical Pathology, College of Physicians* and Surgeons, Columbia University, New York. Second Edition. Cloth. Pp. 725, with 192 illustrations and 9 colored plates. Price, $5. New York: *D. Appleton & Co.*

DISEASES OF THE EAR. By Edward Bradford Dench, Ph.B., M.D., Professor of Diseases of the Ear in the University and Bellevue Hospital Medical College. Cloth. Pp. 696, with 158 illustrations in text and 9 plates. Fourth Edition. Price, $5. New York: D. Appleton & Co., 1909.

PYE'S SURGICAL HANDICRAFT. Fifth Edition. Revised and Largely Rewritten by W. H. Clayton-Greene, B.A., M.B., B.C., F.R.C.S., Surgeon-in-Charge of Out-Patients, St. Mary's Hospital. Cloth. Pp. 576, with 343 illustrations. Price, $4. net. New York: E. B. Treat & Co., 1909.

UEBER DAS WESEN DER FORMATIVEN REIZUNG. Von Jacques Loeb. Professor of Physiology in the University of California, Berkeley. Read before the Sixteenth International Medical Congress in Budapest, 1909. Paper. Pp. 34. Price, 1 mark. Berlin: Verlag von Julius Springer. 1909.

KLINIK DER MISSBILDUNGEN UND KONGENITALEN ERKRANKUNGEN DES FÖTUS. Von Professor Dr. R. Birnbaum, *Oberarzt* der Kgl. Universitats-Frauenklinik zu Göttingen. Paper. Pp. 274, with 49 illustrations. Price, 12 marks. Berlin: Verlag von Julius Springer, 1909.

SECHSUNDACHTZIGSTER JAHRES-BERICHT DER SCHLESISCHEN GESELLSCHAFT FÜR VATERLÄNDISCHE CULTUR. Enthält den Generalbericht über die Arbeiten und Veränderungen der Gesellschaft im Jahre 1908. Paper. Breslau: G. P. Aderholz' Buchhandlung, 1909.

EINFÜHRUNG IN DIE MODERNE KINDERHEILKUNDE. Ein Lehrbuch für Studierende und Aerzte. Von Dr. B. Salge, Professor der Kinderheilkunde in Frieburg i. B. Cloth. Pp. 356, with *9 illustrations*. Price, 9 marks. Berlin: Verlag von Julius Springer, 1909.

PRACTICAL POINTS IN THE USE OF *X*-RAY AND HIGH-FREQUENCY CURRENTS. By Aspinwall Judd, M.D., Adj. Professor of Surgery of Post-Graduate Medical School and Hospital. Cloth. Pp. 189, with illustrations. Price, $1.50. New York: Rebman Co.

THE DISEASES OF CHILDREN. By Henry Enos Tuley, M.D., Professor of Obstetrics, University of Louisville, Medical Department. Cloth. Pp. 631, with illustrations. Price, $5. Baltimore: Southern Medical Pub. Co., 1909.

STATE HOSPITALS' BULLETIN, STATE OF NEW YORK. *Published Four Times a Year by the Authority* of the State Commission in Lunacy. Vol. II. September, 1909. No. 2. Paper. Pp. 557. Single Copy .50 cents.

THE DIAGNOSTICS OF INTERNAL MEDICINE. *By Glentworth* Reeve Butler, M.D., Sc.D., LL.D., Attending Physician to Brooklyn Hospital. Cloth. Pp. 1,165, with 277 illustrations. Third Edition. Price, $6. New York: D. Appleton & Co., 1909

THIRTY-SECOND ANNUAL REPORT OF THE BOARD OF HEALTH OF THE STATE OF NEW JERSEY, 1908, and Report of the *Bureau* of Vital Statistics. Cloth. Pp. 633.

THE TRAINING OF CHILDREN FROM CRADLE TO SCHOOL. By Mrs. H. C. Cradock. Cloth. Pp. 91. Price, 60 cents. London: *George* Bell and Sons, 1909.

UMWELT UND INNENWELT DER TIERE. Von J. von Uexküll, Dr. med. hon. c. Paper. Pp. 259. Berlin: Verlag von Julius Springer, 1909.

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Original Articles

THE ADVANTAGE OF USING POTASSIUM IODID UNTIL WE HAVE SOMETHING BETTER *

GEORGE DOCK, M.D.
NEW ORLEANS

Potassium iodid is a striking example of the uncertainty, unrest and dissatisfaction so characteristic of therapeutics at the present time, and, as I have long had some convictions on the subject, I accepted with pleasure the invitation of the Section officers to present them at this meeting. There can be no objection to therapeutic unrest in the sense of an intelligent striving for something better than we have, with the actual and known base as a point of departure, and the problems of the future clearly stated. But in this instance, as in so many others in modern practical therapeutics, the movement is hampered by ignorance, obscurantism, fallacious statements as to the old, and questionable, if not actually misleading assertions as to the new.

I shall not speak of the theoretic knowledge of the subject, including, as it does, the knowledge of iodin and all its combinations. All that is accessible, and whether the theories are true or not does not enter largely into the present discussion. On the other hand, I wish to rely chiefly on clinical experiences, believing that we have here a good example of the use of empiricism as a guide to wider knowledge, as well as a refuge and comfort in time of trial. Potassium iodid has not been used as long as many other drugs, but it has, rightly or wrongly, been used to an enormous extent. That sort of experience, whether individual or collective, contains many sources of error, but in this particular case I think that the errors are adventitious, and I intend to speak about some phases of the subject from the empirical standpoint. Potassium iodid is used by many, probably by the majority of physicians, with a confidence equal to that of the Eddyite in a mystic formula, or of the disciple of the Emmanuel movement in the unconscious conviction of the omnipotence of the subliminal self. In strong contrast, we find others who may not be able to formulate definite reasons, but who are uncertain, and so much so as to keep them using substitutes, grasping at every innovation, but rarely making any addition either to their own or the common knowledge. It will perhaps be more useful to take up certain phases and discuss them.

A knowledge of how much of a remedy to give is essential in practical therapeutics, and potassium iodid is a frequent example of imperfect preparation as regards dosage. I do not hold teachers of materia medica or therapeutics responsible for this, because I think any one fit to practice medicine should be able to find out for himself what a little consideration will indicate to be an elementary fact. If there is one fact in therapeutics that is well founded it is that certain syphilitic lesions and their symptoms are frequently capable of relief by large doses of potassium iodid. It is almost as well established that to be called large in this sense the dose must be more than fifteen grains, and may be many times that; and yet one can often see syphilitics who have been warned that more than five or ten grains at a dose are dangerous. Anyone with such an obsession can hardly be likely to be a competent judge of the qualities of a new preparation.

One of the greatest difficulties of the beginner in medical practice is in regard to getting the drug, of which he knows so little, into the body of the patient, which he should, according to current criticisms of teachers of therapeutics, know so well. Even if he has been taught that the simplest way is the best, a line of medical exemplars and mentors and the columns of the leading medical journals suggest that complexity is imperative, and, as so often happens, increased knowledge leads quickly to doubt and uncertainty. My own experience has been useful to others, and may be again. As an undergraduate, I received an impression from my teacher of materia medica, to whom I have never ceased to be grateful for his instruction in dosage, that compound syrup of sarsaparilla was the only good vehicle for potassium iodid. On the other hand, the professor of surgery, about whom hung the glamor of being even a better physician than surgeon, and therefore far above the limitations of knowledge of the combined chairs of practice and therapeutics, held that cinnamon water was the only thing that would enable one to give iodid and to get the desired result. This sort of conflict is thought by many pedagogues to be undesirable, and some would prevent it by codifying information and delimiting the instruction of various teachers in a medical school. I have never thought so, but, on the contrary, was stimulated by the divergent views of two men of experience to try some other vehicles. Having accessible a considerable number of patients whose systems seemed to require iodid, and an obliging hospital pharmacist, I was able to learn that many other liquids in the Pharmacopeia were equally useful. Fortunately for me, about that time some one whom I cannot name, but to whom I owe grateful thanks, suggested giving the drug in a grain-to-the-drop solution in water, and administered in milk. Since then I have never used any other way when giving iodid for a marked effect, and I have not found any patient who could not take it, or who had any difficulty from the local effect on the stomach.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

years old, and one of them was in good condition a year later; one has been lost sight of; the third succumbed to thrombosis of the mesenteric vessels two weeks after the operation.

Hygiea, Stockholm

August, LXXI, No. 8, pp. 769-878

131 Myoma Complicating Pregnancy and Delivery. (Om myom som komplikation under hafvandeskap och förlossning.) L. Lindquist.
132 Mechan[illegible] of [illegible] Action of Morphin and Opium. (Om [illegible] och opiets stoppande verkan.) C. G. S[illegible].
133 Two Cases of Twins with Single Amnion. (Två fall af enäggiga tvillingar med gemensam amnion och sammanknutna nafvelsträngar.) G. Pallin.
134 *Diabetes Mellitus in Early Childhood. (Diabetes mellitus i tidigare barnaåren.) P. Landahl.
135 Menstruation During Lactation. (Menstruationens förhållande under digifningen.) O. Sundin.

134. **Diabetes in Children.**—Landahl has encountered six cases of diabetes in children from 10 months to 16 years old. In four the children were not seen until the disease was in such an advanced stage that death soon followed. In a fifth case a female child of 14 months presented considerable glycosuria, the exact proportion not determined. There had been no preceding infection except influenza a few weeks before, and the child was brought for medical advice merely on account of bilateral cataract. On a diet free from carbohydrates the sugar disappeared permanently from the urine in a few weeks and the child has been in good health for thirteen years to date. The sixth little patient was a male child nearly 2 years old who had been kept in fairly good condition for three years by regulation of the diet. When the proportion of sugar is high the child feels sick, but the subjective health improves parallel with the reduction of the amount of sugar in the urine. In treatment of juvenile diabetes he warns that the cocoa on the market is liable to be mixed with carbohydrates and consequently should be selected with care; pure cocoa with cream can generally be allowed. He emphasizes the necessity for routine examination of the urine of children as this will reveal many unsuspected cases of diabetes, and the chances for a complete cure are better the earlier treatment is commenced. Children in families with a tendency to diabetes should be supervised with exceptional care and warned against sweets. Even in the healthy, he says, ingestion of 100 gm. of sugar on the fasting stomach will induce glycosuria; it soon subsides unless there is a predisposition to diabetes, in which case it is liable to persist and induce diabetic symptoms. Consequently families with a history of diabetes should be warned against sweets, especially on an empty stomach. If a reducing substance should be found in the urine after eating a sweet article of food, all sweets should be forbidden and the diet carefully regulated. The general measures found useful in tuberculosis should be applied also in juvenile diabetes, especially abundance of fresh air day and night and avoidance of all mental and physical effort. In his sixth case the child's maternal grandfather and great-grandfather had been diabetics, but the infant had developed normally until the twenty-first month, when it began to pine and 1.5 per cent. sugar was found in the urine and the acetone reaction was positive. Everything that contained sugar was excluded from the diet and sodium bicarbonate given. The specific gravity of the urine ranges from 1.020 to 1.032, but there has never been excessive thirst or polyuria. The child is now approaching the age of 5; the tolerance for carbohydrates is still very low, although higher than formerly. Glucose appears in the urine if the limit of tolerance for carbohydrates is overpassed, and sometimes then, especially if the child is tired, he vomits. The boy is now 43.3 inches tall and weighs about 37 pounds. He can play out of doors for hours at a time and take walks without much fatigue. Landahl's fifth case resembles that reported by Schmitz in which the wife of a diabetic feared that her little son might have inherited the tendency, and she had his urine examined frequently, but always with negative findings until the child had an attack of "gastric fever," when 5.8 per cent. sugar was found in the urine. On a strict antidiabetic diet the glycosuria subsided in less than a month, and there has been no recurrence during the twenty years since, with unrestricted diet

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Studies on Leprosy. V. A Report on the Treatment of Six Cases of Leprosy with Nastine (Deycke). By Walter R. Brinckerhoff, S.B., M.D., Director Leprosy Investigation Station, Public Health and Marine-Hospital Service, and James T. Wayson, M.D., Member of the Board of Health of the Territory of Hawaii Honolulu, Hawaii. VI. Leprosy in the United States of America in 1909. By Walter R. Brinckerhoff, S.B., M.D., Director Leprosy Investigation Station, Public Health and Marine-Hospital Service. Paper. Pp. 24, with illustrations. Washington: Government Printing Office, 1909.

Beiträge zu [illegible]tspektra, unter Berücksichtigung der [illegible]äure. Von Reg.-Rat Dr. med. E. Rost, [illegible] und Dr. med. Fr. Frantz, ständ. Mitarbeiter im k. Gsndhtsamte., und Dr. phil. R. Heise, technischem Rat im k. Gsndhtsamte. Paper. Pp. 304, with 15 illustrations. Price, 9 marks. Reprint from Arb. a. d. k. Gsndhtsamte, XXXII, No. 2. Berlin: Verlag von Julius Springer, 1909.

Atlas of External Diseases of the Eye. By Dr. Richard Greeff, Professor of Ophthalmology in the University of Berlin and Chief of the Royal Ophthalmic Clinic in the Charité Hospital. Only Authorized English Translation by P. W. Shedd, M.D., New York. Half leather, with 54 plates and 84 figures in color. Pp. 135. Price, $10. New York: Rebman Co.

The Enzyme Treatment for Cancer. By William Seaman Bainbridge, A.M., Sc.D., M.D., Scientific Report on Investigations with Reference to the Treatment of Cancer. Paper. Pp. 34. Published with the Authority of the Committee on Scientific Research of the New York Skin and Cancer Hospital. No. 1.

Renal, Ureteral, Perirenal and Adrenal Tumors and Actinomycosis and Echinococcus of the Kidney. By Edgar Garceau, M.D., Visiting Gynecologist to St. Elizabeth's Hospital, and to Boston Dispensary, Boston, Mass. Cloth. Pp. 404, with 72 illustrations. Price, $5. New York: D. Appleton & Co.

Chemical and Microscopical Diagnosis. By Francis Carter Wood, M.D., Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, New York. Second Edition. Cloth. Pp. 725, with 192 illustrations and 9 colored plates. Price, $5. New York: D. Appleton & Co.

Diseases of the Ear. By Edward Bradford Dench, Ph.B., M.D., Professor of Diseases of the Ear in the University and Bellevue Hospital Medical College. Cloth. Pp. 696, with 158 illustrations in text and 9 plates. Fourth Edition. Price, $5. New York: D. Appleton & Co., 1909.

Pye's Surgical Handicraft. Fifth Edition. Revised and Largely Rewritten by W. H. Clayton-Greene, B.A., M.B., B.C., F.R.C.S., Surgeon-in-Charge of Out-Patients, St. Mary's Hospital. Cloth. Pp. 576, with 343 illustrations. Price, $4. net. New York: E. B. Treat & Co., 1909.

Ueber das Wesen der formativen Reizung. Von Jacques Loeb, Professor of Physiology in the University of California, Berkeley. Read before the Sixteenth International Medical Congress in Budapest, 1909. Paper. Pp. 34. Price, 1 mark. Berlin: Verlag von Julius Springer, 1909.

Klinik der Missbildungen und Kongenitalen Erkrankungen des Fötus. Von Professor Dr. R. Birnbaum, Oberarzt der Kgl. Universitats-Frauenklinik zu Göttingen. Paper. Pp. 274, with 49 illustrations. Price, 12 marks. Berlin: Verlag von Julius Springer, 1909.

Sechsundachtzigster Jahres-Bericht der Schlesischen Gesellschaft für vaterländische Cultur. Enthält den Generalbericht über die Arbeiten und Veränderungen der Gesellschaft im Jahre 1908. Paper. Breslau: G. P. Aderholz' Buchhandlung, 1909.

Einführung in die moderne Kinderheilkunde. Ein Lehrbuch für Studierende und Aerzte. Von Dr. B. Salge, Professor der Kinderheilkunde in Frieburg i. B. Cloth. Pp. 356, with 9 illustrations. Price, 9 marks. Berlin: Verlag von Julius Springer, 1909.

Practical Points in the Use of X-Ray and High-Frequency Currents. By Aspinwall Judd, M.D., Adj. Professor of Surgery of Post-Graduate Medical School and Hospital. Cloth. Pp. 189, with illustrations. Price, $1.50. New York: Rebman Co.

The Diseases of Children. By Henry Enos Tuley, M.D., Professor of Obstetrics, University of Louisville, Medical Department. Cloth. Pp. 631, with illustrations. Price, $5. Baltimore: Southern Medical Pub. Co., 1909.

State Hospitals' Bulletin, State of New York. Published Four Times a Year by the Authority of the State Commission in Lunacy. Vol. II. September, 1909. No. 2. Paper. Pp. 557. Single Copy 50 cents.

The Diagnostics of Internal Medicine. By Glentworth Reeve Butler, M.D., Sc.D., LL.D., Attending Physician to Brooklyn Hospital. Cloth. Pp. 1,165, with 277 illustrations. Third Edition. Price, $6. New York: D. Appleton & Co., 1909

Thirty-Second Annual Report of the Board of Health of the State of New Jersey, 1908, and Report of the Bureau of Vital Statistics. Cloth. Pp. 633.

The Training of Children From Cradle to School. By Mrs. H. C. Cradock. Cloth. Pp. 91. Price, 60 cents. London: George Bell and Sons, 1909.

Umwelt und Innenwelt der Tiere. Von J. von Uexküll, Dr. med. hon. c. Paper. Pp. 259. Berlin: Verlag von Julius Springer, 1909.

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Original Articles

THE ADVANTAGE OF USING POTASSIUM IODID UNTIL WE HAVE SOMETHING BETTER *

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Potassium iodid is a striking example of the uncertainty, unrest and dissatisfaction so characteristic of therapeutics at the present time, and, as I have long had some convictions on the subject, I accepted with pleasure the invitation of the Section officers to present them at this meeting. There can be no objection to therapeutic unrest in the sense of an intelligent striving for something better than we have, with the actual and known base as a point of departure, and the problems of the future clearly stated. But in this instance, as in so many others in modern practical therapeutics, the movement is hampered by ignorance, obscurantism, fallacious statements as to the old, and questionable, if not actually misleading assertions as to the new.

I shall not speak of the theoretic knowledge of the subject, including, as it does, the knowledge of iodin and all its combinations. All that is accessible, and whether the theories are true or not does not enter largely into the present discussion. On the other hand, I wish to rely chiefly on clinical experiences, believing that we have here a good example of the use of empiricism as a guide to wider knowledge, as well as a refuge and comfort in time of trial. Potassium iodid has not been used as long as many other drugs, but it has, rightly or wrongly, been used to an enormous extent. That sort of experience, whether individual or collective, contains many sources of error, but in this particular case I think that the errors are adventitious, and I intend to speak about some phases of the subject from the empirical standpoint. Potassium iodid is used by many, probably by the majority of physicians, with a confidence equal to that of the Eddyite in a mystic formula, or of the disciple of the Emmanuel movement in the unconscious conviction of the omnipotence of the subliminal self. In strong contrast, we find others who may not be able to formulate definite reasons, but who are uncertain, and so much so as to keep them using substitutes, grasping at every innovation, but rarely making any addition either to their own or the common knowledge. It will perhaps be more useful to take up certain phases and discuss them.

A knowledge of how much of a remedy to give is essential in practical therapeutics, and potassium iodid is a frequent example of imperfect preparation as regards dosage. I do not hold teachers of materia medica or therapeutics responsible for this, because I think any one fit to practice medicine should be able to find out for himself what a little consideration will indicate to be an elementary fact. If there is one fact in therapeutics that is well founded it is that certain syphilitic lesions and their symptoms are frequently capable of relief by large doses of potassium iodid. It is almost as well established that to be called large in this sense the dose must be more than fifteen grains, and may be many times that; and yet one can often see syphilitics who have been warned that more than five or ten grains at a dose are dangerous. Anyone with such an obsession can hardly be likely to be a competent judge of the qualities of a new preparation.

One of the greatest difficulties of the beginner in medical practice is in regard to getting the drug, of which he knows so little, into the body of the patient, which he should, according to current criticisms of teachers of therapeutics, know so well. Even if he has been taught that the simplest way is the best, a line of medical exemplars and mentors and the columns of the leading medical journals suggest that complexity is imperative, and, as so often happens, increased knowledge leads quickly to doubt and uncertainty. My own experience has been useful to others, and may be again. As an undergraduate, I received an impression from my teacher of materia medica, to whom I have never ceased to be grateful for his instruction in dosage, that compound syrup of sarsaparilla was the only good vehicle for potassium iodid. On the other hand, the professor of surgery, about whom hung the glamor of being even a better physician than surgeon, and therefore far above the limitations of knowledge of the combined chairs of practice and therapeutics, held that cinnamon water was the only thing that would enable one to give iodid and to get the desired result. This sort of conflict is thought by many pedagogues to be undesirable, and some would prevent it by codifying information and delimiting the instruction of various teachers in a medical school. I have never thought so, but, on the contrary, was stimulated by the divergent views of two men of experience to try some other vehicles. Having accessible a considerable number of patients whose systems seemed to require iodid, and an obliging hospital pharmacist, I was able to learn that many other liquids in the Pharmacopeia were equally useful. Fortunately for me, about that time some one whom I cannot name, but to whom I owe grateful thanks, suggested giving the drug in a grain-to-the-drop solution in water, and administered in milk. Since then I have never used any other way when giving iodid for a marked effect, and I have not found any patient who could not take it, or who had any difficulty from the local effect on the stomach.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Here I wish to digress in order to speak of the taste of medicines. When I was trying various vehicles for iodid, one of my desiderata was a less unpleasant taste. About the same time, however, I learned that a bad taste did not necessarily discourage patients from the use of medicine, a fact that is easy to confirm by tasting any of the popular remedies consumed so largely by people of all classes. So far as potassium iodid is concerned, however, milk does seem to prevent any complaint on the ground of unpalatability.

Not less certain am I of the freedom of the method from gastric irritation, and when the detail man begins his work by stating, as he often does: "Doctor, you always have trouble getting your patients to take iodid," I reply that I have many therapeutic troubles, but not that particular one. In order to show that small dosage is not the explanation of the absence of unpleasant symptoms, I can instance a non-syphilitic (as certainly as one can be of that) who took 80 grains (5.3 gm.) a day for more than a year, and of others who have taken as much as 500 grains (33.3 gm.) a day for many weeks. I am not advocating doses like the latter, but doses of 30 to 45 grains (2 to 3 gm.) three times a day often seem distinctly desirable.

The therapeutist often has another fear before him when he wishes to give iodid—that of iodism. This is most frequently seen in patients who are taking small doses, such as one or two grains at a time, and in the form of inflammatory lesions of the skin and mucous membranes. On the former, it depends largely on lack of cleanliness, and in the mucous membranes also it may be supposed that local infections play an important part. The iodin "drunk" and iodin mumps I have never seen. Edema of the glottis occurring in patients taking iodids should be borne in mind, but it is probable that in some of the reported cases there were other factors more important than iodid. In rare cases iodid causes symptoms as the result of idiosyncrasy, and some of the cases of iodid coryza, with headache, may well belong to that class. The more general symptoms spoken of even now as "iodism," with nervousness, emaciation, tachycardia, etc., are really not due to iodids or even iodin directly, but, as Lebert showed in 1855, are due to thyroid intoxication. They are more common in patients with hyperthyroidism, but do not occur invariably in patients with simple goiters, even when large quantities are ingested.

Having learned a satisfactory method of giving iodid, I have used the potassium salt almost exclusively. The tincture, or more frequently the compound solution, I use in certain goiters, but find the iodid of potassium better for the constitutional effect, or what local one we seem to get in certain diseases, such as bronchitis, certain asthmas, etc. Such a statement may suggest a certain narrowness, or lack of inquiry, but I think not justly. I have had many opportunities of seeing other preparations used, and used under conditions that made comparisons possible.

I have been especially interested in seeing sodium iodid tried. That salt should be better, for some reasons, than the potassium one. Not having seen a deleterious effect from the latter, I am not able to speak on that point, and believe that only minute investigations can settle the question. But I have been convinced that the sodium iodid has no decided advantage so far as taste and effect on the stomach are concerned. Hydriodic acid also has been disappointing.

Recently a number of preparations have been put on the market and advertised in the manner of such substances in general. The alleged advantages have to do with such qualities as organic combination, insolubility in the stomach, either rapid or slow absorption from the intestine, and certainty of action. Always the uselessness if not harmfulness of the inorganic salts is emphasized. But, as we can see in the case of iron, organic preparations are not necessarily superior, and in the present case it is interesting to see that actual pharmacologic facts in proof of this contention are conspicuous by their absence. I shall not enter into details of the various preparations and their recommendations, but urge that, while all may be worth investigating, those who wish to do so might begin by a careful and unprejudiced study of a simpler remedy and one that has much evidence in its favor.

Potassium iodid illustrates another common but unnecessary difficulty in practical therapeutics. It is usually named when incompatibilities are considered, and the student, in being warned against the dangers of combining iodid with some other preparation, is often led to think that some combination is necessary. Just why one should wish to combine iodid with strychnin, for instance, I cannot understand, and the simple rule to give a medicine singly if possible may here be followed with great advantage.

In conclusion I would say:

Potassium iodid can be taken easily and safely and in adequate quantities by most patients who need it.

Other preparations of iodin may prove to be better, but need to be tested, and recommendations based on the inferiority of potassium iodid should be looked on with suspicion.

124 Baronne Street.

BICHLORID OF MERCURY IN THE TREATMENT OF IDIOPATHIC MULTIPLE HEMORRHAGIC SARCOMA

WITH THE REPORT OF TWO CASES

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So much has been written regarding this interesting condition that anything further from a clinical standpoint would seem superfluous; but, on account of the rapid disappearance of the growths under treatment by bichlorid of mercury, a few words regarding their malignancy will not be out of place.

From an experience of twenty-five cases, Kaposi gives an unfavorable prognosis. Extirpation, local or constitutional treatment having been of no avail in preventing the course of the disease to a fatal termination. Death followed metastasis to internal organs, accompanied by fever, bloody diarrhea and hemoptysis, the disease usually running a course of from four to eight years.

Since Kaposi's description appeared, over a hundred cases have been recorded, opinions as to malignancy, however, being generally less gloomy than Kaposi's. Deductions from reported cases show that the disease may disappear spontaneously or continue from fifteen to twenty-five years without causing any apparent constitutional symptoms. A few patients treated with arsenic, either by mouth or hypodermically, showed improvement, as reduction in swelling and disappearance of growths. A few recovered completely under this treatment, while others did not respond at all. Local treatment has been limited mainly to the relief of pain by the application of soothing ointments, pastes, baths, compresses and bandages, the ulceration and necrosis receiving treatment according to surgical principles.

Recently the *x*-ray has been employed, and, while improvement was noticed after long exposures, treatment by this means has not been successful in causing disappearance of the growths. With the idea of adding to what has already been done, in advancing the treatment of this disease, the following cases are presented; and, since I am not unmindful of the danger of drawing positive conclusions from a limited number of cases, I hope that others will employ bichlorid of mercury or other antiseptics, and prove or disprove their worth.

Case 1.—*Patient.*—A woman, aged 46, born in Hungary, came under observation, Oct. 22, 1904. About eight months previously a swelling had appeared on the outer side of the right foot, accompanied by considerable pain. This was followed, at irregular intervals, by the development of small tumors on various parts of the foot. The patient was apparently in good health, except that she became tired easily, and complained of the severe pain accompanying the condition of the foot. The pain was greatly increased by exercise, so that the patient was compelled to remain in bed at times with the leg elevated, which afforded some relief.

Examination.—Beginning a little to the right of the median line and extending to the sole, the skin was hard and thickened, the surface uneven, tense and glistening, and of a peculiar purplish color with a bluish cast. Within the infiltrated area, and scattered on various parts of the foot were numerous tumors, in size varying from slight papular elevations to extensive tumor growths. The smaller were circular or oval in outline, of a bluish-black color. A few had ulcerated superficially, bleeding on the slightest touch. The larger growths were more firm, of a dirty gray color; the surfaces were uneven, nodular, and the color was somewhat darker than at the base. The growths overlapped the skin to an extent generally depending on the size of the growth, the smaller appearing as though simply constricted, while the larger extended over the skin about 4 mm. Sections of a small growth were made. The findings were similar to those in Case 2, reported below, regarding cellular infiltration, changes in the vessels, presence of blood pigment, etc.; but as the deeper corium was not included in the biopsy in Case 1, detailed description is omitted here. A description of the microscopic findings in Case 2, in which a better opportunity was afforded of obtaining material for examination, is given in the report of that case.

Treatment.—A solution of bichlorid of mercury, 1 to 2000, was applied to overcome the offensive odor of the discharge. After several weeks it was noticed that the larger tumors had perceptibly diminished, and several small pea-sized tumors had disappeared. The strength of the solution was then gradually increased to 1 to 500 and applied as wet compresses.

Course of Disease.—At the end of four months all growths had disappeared. Patient was seen two years later, at which time she was in good health, and no recurrence of the disease had taken place.

Case 2.—*Patient.*—A widow, aged 50, native of the United States, was admitted to the Newark City Hospital, Jan. 20, 1905, with the following history: Six months previous to her admission, she scratched the dorsum of her right foot with a pin. The injury, though slight, healed very slowly; shortly afterward a small oval "blood-blister" appeared in the site of the scar. On account of the seemingly trivial nature of the condition nothing was done; several weeks later similar growths appeared on various parts of the foot, accompanied by severe pain and swelling. The patient's family physician, thinking that the growths were of a warty nature, removed several with a pair of scissors and cauterized the base, but they recurred and others gradually appeared, until the entire sole and dorsum of the foot were involved, at the time she came under observation.

Examination.—The clinical picture was somewhat different from that of Case 1, lacking the broad infiltrations, but the primary growths and their development were unmistakably the same. Irregularly scattered over the dorsum and sole of the right foot were numerous firm tumors in various stages of development, varying from the size of a lentil to that of a walnut. The color of the smaller or beginning lesions was a dark purplish red, while those that had developed to bean size or larger had a grayish base and purplish brown or black surface, the dark color usually becoming more intense toward the apex of the growth. Located on the dorsum of the foot, several large irregularly oval, firm masses were developed by coalescence of a varying number of the primary growths, forming lobulated tumors which overlapped the skin; the surfaces were dotted with numerous dark oval rounded elevations, some of which had ulcerated superficially. Many of the tumors on reaching the size of a pea or larger, became depressed in the center or ulcerated superficially and gradually disappeared, leaving variously sized pigmented areas. In some locations the pigment disappeared, resulting in whitish spots, which were quite pronounced in contrast to the increased pigmentation of the surrounding skin.

Treatment.—All the larger masses, including those on the dorsum of the foot, were injected with cocain, and with a pair of scissors cut off down to the base. The bleeding, though considerable, was readily controlled by compresses and a tight bandage, which was allowed to remain several days. The foot was then enveloped in wet dressings of a 1 to 2000 solution of bichlorid of mercury. This treatment was continued for about six weeks, when all wounds had cicatrized and the smaller tumors were decreasing. The bichlorid solution was then gradually increased to 1 to 500, and applied as wet compresses of absorbent cotton and bandaged rather firmly. The dressings were changed once a day; after several weeks a slight dermatitis developed, which rapidly subsided under a soothing ointment. A milder solution of bichlorid was then substituted. At the end of six months, all lesions had disappeared, leaving only the increased pigmentation and a few areas of white slightly atrophic spots, the result of previous tumors, otherwise the skin appeared normal, and the patient was discharged apparently cured.

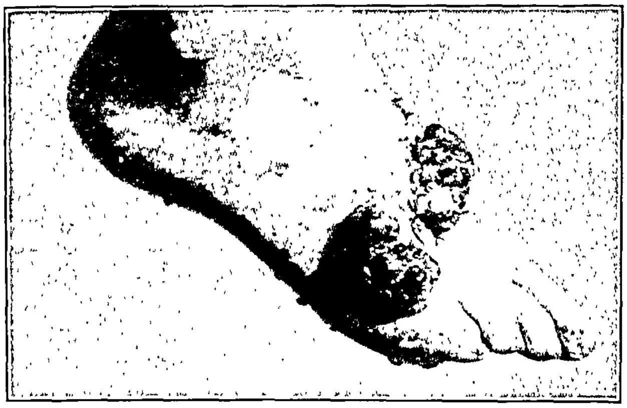

Fig. 1.—Foot of Patient 2, showing multiple growths.

Course of Disease.—One year later the patient was admitted to the hospital for alcoholism, at which time there was no return of the disease. On Nov. 27, 1908, she was again admitted; she had lived a precarious life since leaving the hospital, and in consequence was greatly reduced in weight and general health. Physical examination was negative. Urine contained a slight trace of albumin with a few casts. The blood examination did not reveal anything abnormal, except a slight anemia. Examination of the previous site of the disease showed only the white areas and increased pigmentation surrounding the location of former lesions. On the middle third of the inner side of the thigh a new growth was present similar in general character to those removed but somewhat more extensive, measuring about 10 cm. in diameter. The thigh was swollen, stiff and very painful. The slightest movement caused intense lancinating pains. According to the patient's statement this tumor had appeared about six months previous to her present admission. A plan of treatment to improve her general health was instituted, but she never rallied, gradually passing into a state of coma preceding death, which occurred on Dec. 23, 1908, about three years after the primary growth appeared.

Autopsy.—I am indebted to Dr. H. S. Martland, pathologist of the hospital, for the following brief synopsis of the autopsy findings. Body was that of a woman aged about 60, showing marked emaciation. Rigor mortis was present in the smaller joints, and there was marked postmortem lividity in the dependent portions of the body. The skin was very pale, and no superficial lymphatics were felt. The left leg presented at the thigh a clean, oval wound, about 8 by 12 cm. This represented the area from which the large growth had been removed. The leg presented, on its lower third and on the dorsum of the foot, numerous irregular, white areas, around the margin of these, there was an increase in pigment. The visceral lesions found were the following: Fatty infiltration and degeneration of the heart muscle, hypertrophy of the left ventricle, atheroma of the coronaries; senile emphysema, healed apical tuberculosis, anthracosis, generalized pulmonary edema; chronic interstitial splenitis; hyperplasia of the medullæ of adrenals; chronic interstitial nephritis (small granular kidney); atrophic gastritis, healed peptic ulcer; fatty infiltration of the pancreas; atrophy and stasis of liver (atrophia rubra); senile atrophy of the genital organs, causa mortis, chronic interstitial nephritis. There was no evidence of metastasis from the growth on the thigh.

Microscopic Examination.—The corium was densely infiltrated by variously shaped cells; a few were spindle-shaped, while a large majority appeared round or oval. They were usually more densely packed around the capillaries. The endothelium of the blood-vessels showed proliferative changes presenting several rows of nuclei. The walls were thickened and the lumen narrowed. Situated between the cells were vascular spaces; the smaller were rounded or oval and a single layer of endothelial cells could be seen lining the cavities. The larger were irregular in shape and seemed to be situated within the cellular infiltration without limiting membrane. In some locations interstitial hemorrhages had occurred between the cells. The fibrous tissue of the corium was pushed up against the epithelium, appearing as a narrow band, the papillæ having entirely disappeared. The changes in the epithelium consisted of a gradual thinning, resulting from pressure of the growing mass beneath. If a nodule were examined, nothing unusual in the epithelium was noticed, except a slight hyperkeratosis until about midway between the beginning of elevation and apex of growth, when the papillary processes disappeared and a gradual thinning of the rete occurred, the stratum cylindricum was maintained as a wavy line of cells that appeared normal. In some nodules the stratum cylindricum disappeared near the apex, and a few layers of flattened cells with indefinite nuclei remained, which gradually disappeared as the top of the growth was reached, resulting in superficial ulceration. The multiple growths due to a varying number of separate foci producing lobulated tumors showed the epithelium continued between the lobules and the fibrous tissue pushed to one side, appearing on section as narrow bands surrounding the cellulo-vascular infiltrations. The epithelium varied in thickness in different parts of the tumor, and in some locations had disappeared, developing actual coalescence. Section of a pigmented lesion, the result of involution, showed the papillæ reformed. The collaginous bundles in the lower part of the corium were separated by spaces running parallel with the fibers, but otherwise appeared normal. In the upper part of the corium immediately beneath the papillæ were seen large particles of blood pigment, and a few foci of cells with spindle-shaped nuclei indistinguishable from those of connective tissue. Some of the capillaries in the lower part of the corium were still widely diluted, while those of the upper part were about normal; a few disorganized vessels showing as narrow bands of nuclei were seen in the cellular foci.

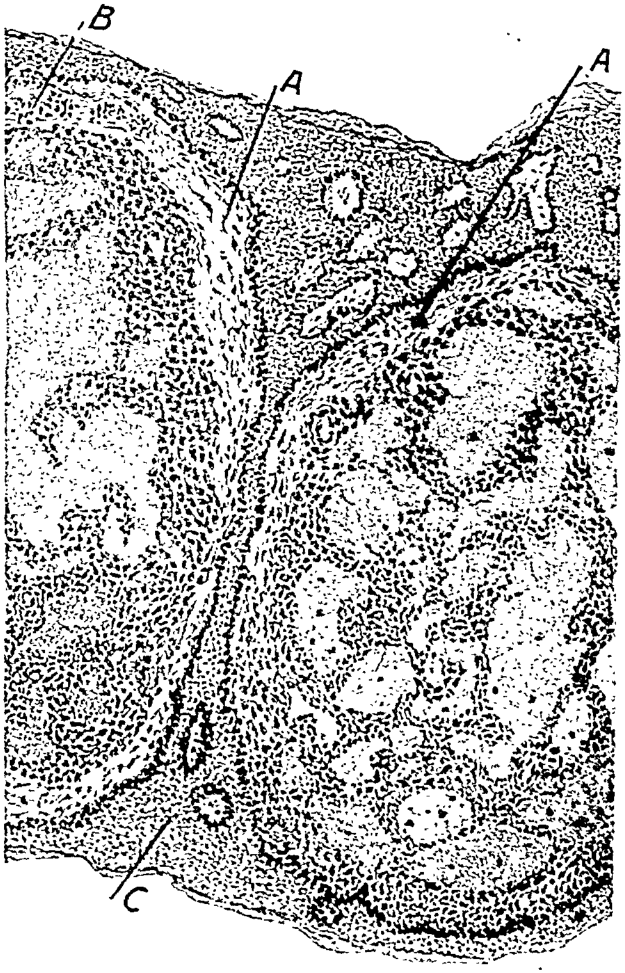

Fig. 3.—Microscopic section of multiple tumor, Case 2; A, fibrous tissue of corium pushed aside by cellular infiltration; B, particles of blood pigment; C, epithelium continued as narrow bands between separate foci of development.

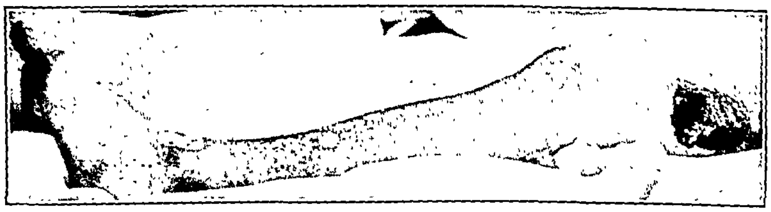

Fig. 2.—Foot and leg of Patient 2, three years later, showing loss of pigment in location of previous tumors and infiltrated areas, also recurring growth on thigh.

From a study of the histopathology, the exact nature of this condition still seems doubtful. It is quite generally accepted that it is of vessel origin, or that the vessels play an important part in its production. The findings in the two cases described would certainly bear out these deductions. The primary changes apparently take place in the deeper corium, as evidenced by proliferative changes in the vessel walls; the vessels, gradually losing resistance, become dilated, appearing on section as the oval blood-filled spaces with a single layer of lining cells. The endothelium gradually disappears in the larger spaces, resulting finally in interstitial hemorrhage.

Whether it is sarcomatous or granulomatous is also in doubt. Each extreme is claimed by many able observers, while a few, who have studied it more recently, place it in a position between the two with marked characteristics of its own. While this seems to be evading the question, it is the best solution to the problem at the present time. That the constituents of the tumor may vary in different cases is more than probable, as there is so much difference regarding the form and character of the invading cell. Originally Kaposi stated that the type was mostly round or oval with a few of the spindle shape. More recently observers are inclined to accept the spindle cell only, explaining the difference in contour as due to their peculiar irregular arrangement in bundles, so that sections show various forms according to the angle at which the cell is viewed. However this may be, this question can not be regarded as settled for the entire group of cases described.

Clinically, we are about in the same uncertain position in judging the course of the disease. It is only by long observation, or by instituting treatment, that anything at all tangible is offered of value in giving a prognosis. The slow progress and recession of lesions responding to some plan of treatment as disappearance of tumor growth would certainly point to a favorable issue, as against the more steady advance and early involvement of the glands seen in sarcoma. In other words, from a study of the reported cases, it is not necessarily a fatal disease, and it is reasonable to presume that a successful plan of treatment will ultimately be found.

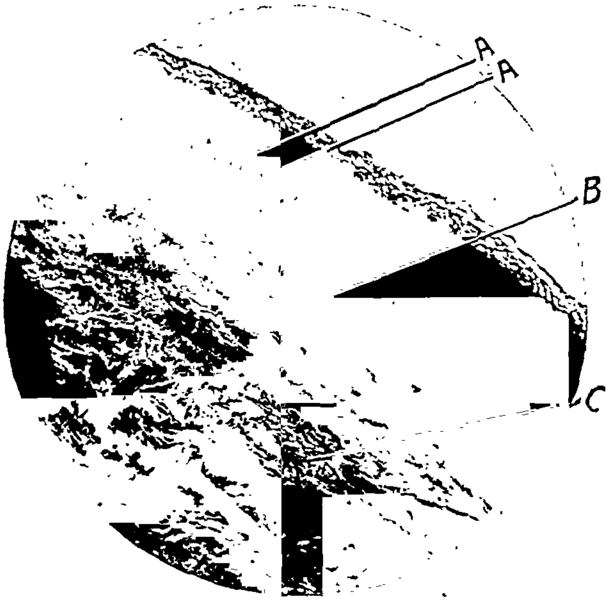

Fig. 4.—Section of pigmented area (Case 2), the result of involution of a small tumor; aa, reformed papillæ; b, pigment deposit in upper corium; c, separation of collagenous bundles.

I take this opportunity of thanking Dr. R. C. O'Crowley for the photographs of Case 2, and Dr. August A. Strasser for the drawing of the microscopic section of the multiple growth.

47 New Street.

Differentiating Sign with Kidney Tumors.—When the tumor is merely the displaced kidney, it may respond to light massage with merely albuminuria, and this differentiates a wandering kidney from tumefaction of other origin. A. Jeremitsch has recently reported in the Russian *Journal Akuscherstica*, 1909, No. 6, 2 cases in which this "palpatory albuminuria," as it has been called, differentiated the cause of the disturbances and permitted effectual treatment. One patient was a young man, and catheterization of the ureter on the side of the tumor proved impossible. About 0.5 per thousand albumin persisted in the urine for ten hours after light massage, these findings recurring at three applications of the test.

ELECTRIC SLEEP

AN EXPERIMENTAL AND CLINICAL STUDY *

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AND
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In the numerous electric experiments on the brain that followed the epoch-making discoveries of Fritch and Hitzig relative to the excitability of the brain, the electric current was invariably applied to the surface of the brain within the trephined skull; it is to Professor Leduc, of Nantes, that we must give credit for having first demonstrated the passage of electric currents through the unopened skull. As early as 1893 W. F. Hutchinson stated that induced current vibrations of extreme rapidity possessed anesthetic properties, but his experimental and clinical findings were far from convincing, although the idea seems to have met with acceptance in some circles. Leduc, in experiments performed in 1902, again called attention to the subject, having, as he stated, produced "instantaneously and without pain complete inhibition of the cerebral centers, leaving the respiratory and circulatory centers intact, thus causing a condition characterized by the loss of voluntary movements and the presence of general anesthesia." To this condition, strongly suggestive of drug narcosis and demonstrably of central origin, Leduc gave the name "electric sleep."

The greater part of our observations were made with the apparatus perfected by Gaiffe, of Paris, in 1908, an apparatus vastly superior in accuracy and safety to any of the crude instruments used by previous experimenters. It consists essentially of a system for rapidly interrupting a current of low tension flowing in one direction, measuring the number of such interruptions a minute and regulating the ratio of the current's active period to its passive period (Fig. 1). This is accomplished by a wheel interrupter, a principle which has for

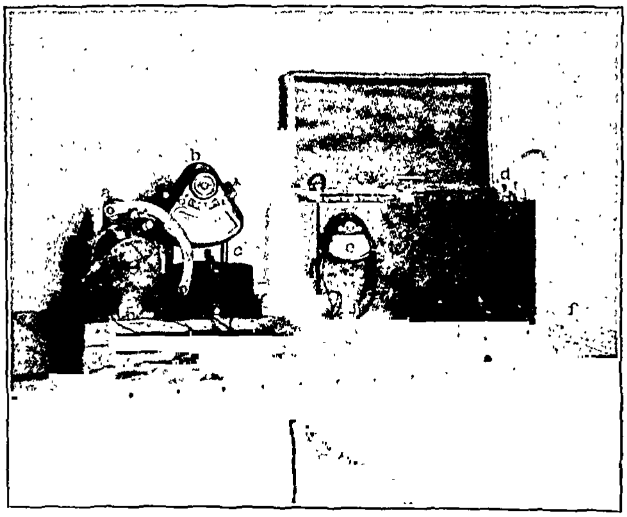

Fig. 1.—Apparatus made by Gaiffe of Paris, 1908; a, wheel interrupter with calibrated scale above it; b, speed indicator; c, rheostat for motor; d, 40-cell galvanic battery; e, milliampère-meter; f, MacLagan wire rheostat.

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* Read in the Section on Surgery of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

* From the Laboratories of Experimental Research, Medical Department, University of California.

many years been employed in electric work. This wheel is revolved very rapidly by means of a motor connected with the indirect lighting current, the number of revolutions being controlled by a rheostat and registered by a speed indicator. A careful examination of the structure of this wheel is important. It consists essentially of four segments, each being insulated from its neighbor. Opposite segments are connected by conducting wires. On the brass rim of these segments play two brushes, carefully adjusted, which deliver to and receive the current from the interrupter. When these brushes are directly opposite each other—that is, 180° apart—there will be four slight interruptions to each complete revolution of the wheel, each interruption occurring as a new segment presents itself. Our half-circle is divided into one hundred parts, and these are calibrated on a scale above the wheel. One of the brushes is fixed, while the other can be moved at will over this arc. Thus, if the movable brush is set at ten on the scale, it means that, instead of the current passing for the whole time to every complete turn except for four slight interruptions, it is only passing for one-tenth of that time and that there is a passive time of nine-tenths for each segment. Thus, if our speed indicator shows a rate of revolutions of 1,500 turns a minute, we know that four times this many segments will pass a minute or 100 a second. If, now, our movable brush is set at ten, the actual time over which the current is active is 1/1000 of a second, each active period being followed by a passive period of 9/1000.

Over this brief time the current rises instantaneously to its maximum and as quickly falls, so that our interrupter delivers a known number of successive shocks a second, the length of time of each shock being regulated and also the period between shocks over which the current is not active. A current of perfectly steady flow is absolutely essential, and for this purpose we have used a forty-cell galvanic battery, also made by Gaiffe, of Paris. We have found the direct lighting current most unsatisfactory, and the indirect lighting current, employed with a transformer, also useless for our purpose.

The arrangement of the apparatus needs a few words of description. We have passed the current from our battery directly through a MacLagan wire rheostat, and it has answered our purpose very well. From the rheostat the positive current traverses the interrupter, then an accurate milliampère-meter and finally a terminal electrode. We have not employed a volt-meter and do not consider it essential. The current from the negative electrode passes directly to the patient; a little experience will show the superiority of interruption on the positive over that on the negative. The application of the electrodes to the subject is at times a matter of great difficulty, and it is here that we believe our technic is most faulty. It is essential to success that the resistance in circuit be as low as possible.

Two areas on the animal are denuded of hair; one large space on the head, just above and between the eyes, and the other, as large as the palm of the hand, on the back a little above the point where the large nerve trunks to the hind legs emerge from the spinal canal. If, in removing the hair, any abrasions result they should be immediately covered with collodion; otherwise they will receive the full force of the current. Our electrodes are thin copper discs to which the conductors are tightly fastened. The interrupter must revolve steadily and the milliampère-meter must show a constant registration on the closed circuit. Any sudden and rapid deviation in current strength may mean the death of the animal. The electrodes should be exactly in the median line; if the current is thrown transversely through the skull, vertigo will result. The brass rim of the wheel becomes worn by its constant contact with the brushes and it should be polished from time to time with emery paper. As the experiment progresses, the animal's resistance to the current decreases, so that the same effect may be produced with a lower voltage. A sudden break in the circuit will mean great shock to the subject, and for this reason we have always been careful to lower the potential slowly. The size of the electrodes varies with the animal employed; in rabbits they are about 3 cm. in diameter. We believe that it is important that the two electrodes should contain approximately the same surface area. The head electrode should always be applied just above and between the eyes.

In reporting our findings we shall consider separately the rabbit, the dog and finally man.

THE RABBIT

When the current is turned on, the rabbit generally shows signs of surprise, and, as the potential increases, a variable degree of excitability is noticeable, as in ether narcosis, followed by rigidity of the neck and tremor of the limbs; then, without a cry or movement, or the least sign of pain, the rabbit falls on its side in the condition previously described as electric sleep. The eye reflexes are the first to disappear; the pupils are unchanged; the cutaneous reflexes are highly exaggerated, especially in the rear limbs. As the experiment continues, these cutaneous reflexes may disappear over the path of the current, but always remain marked in the rear limbs. The animal remains limp and senseless and can be pinched, pricked or cut without any reaction on its part; if the experiment has been carefully conducted, the rabbit will awake immediately as soon as the circuit is opened without showing any after-effects.

There is always some slight respiratory disturbance on raising the potential, and, if this be done suddenly, the rabbit will fall into a heap, the diaphragm become rigid, the thorax immobile, respiration cease and a generalized tremor occur. Habitually, breathing is soon resumed and, like the cardiac pulsations, remains regular during the remainder of the experiment, although the tremor persists until the proper conditions are fulfilled. The latter brusque method of inducing sleep is occasionally fatal, owing to the fact that no two animals react alike to a given dose of electricity.

THE DOG

The phenomena in the dog differ considerably from those in the rabbit. Here we have found it best to use a head electrode the size of a dollar. Two rubber bands are attached to the edges of this head piece and these terminate in long tapes. A thin layer of modeling clay, quite wet, is placed on the shaved surface just above the eyes, and over this the electrode, which is connected with the negative, is placed and held in position by crossing the tapes under the jaw and tying them securely at the back of the neck. The positive electrode is applied over wet cotton and is held tightly in place by an Esmarch bandage. As the current increases, the facial muscles contract, the animal lies down or falls on the side, fecal and urinary incontinence ensue and generalized tremor occurs. This agitation generally subsides as the current continues and, if our application is correct and our wheel is running steadily, the current may be pushed to loss of eye reflex.

The constancy of spasticity and respiratory inhibition caused several (Tuffier, Brewer) to abandon the use of this current in canine surgery as originally advocated by Dr. Louise Robinovitch. We have succeeded, however, in totally eliminating these factors by reducing the resistance in circuit, perfecting the contacts and carefully varying the rate of interruptions. Under these conditions we have invariably avoided the fatalities so frequently noted by previous experimenters. We wish to emphasize one point which we have fully demonstrated. In the dog, unlike the rabbit, there is a complete analgesia over the whole body when a comparatively small amount of current, two or three milliampères, is employed. This is well away from the danger-zone and at this stage any operative interference may be done without the animal experiencing pain. We have repeatedly tested this by cutting down on the large nerve trunks and clamping them with hemostatic forceps, believing this to be the supreme test for analgesia. Of course, a little more current is required here than for the skin incision. If the experiment has been properly conducted, recovery will be immediate, no effect from the application remaining. During the entire experiment, with or without operation, the dog is conscious of its surroundings, the eyes remaining open, the sense of hearing intact.

MAN

Sensations.—We have applied the Leduc current centrally twenty-four times in man, making our first experiments on ourselves. In this work the negative electrode, measuring 11.5 by 4.5 cm., is applied over moist modeling clay just above the eyes and the positive electrode over wet cotton to the nape of the neck. A few tests with large and small positive electrodes applied over the thorax and abdomen showed their danger early in our work, for respiratory failure due to contraction of the diaphragm and chest wall quickly resulted. We have carried the current to five and one-half milliampères without producing loss of eye reflex. The sensation, as we have tried it on ourselves, is not at first disagreeable; a whirring through the brain as of a vibrator, but, as the ampèrage has been raised, the sensation through the head has become so painful that it has caused us to desist. Severe headache was experienced by one of us for twenty-four hours.

Analgesia.—We can report positive results as to analgesia in only one individual. In this case the results have been constant over many trials: A general superficial analgesia is quickly established even at a very low milliampèrage (1½ to 2 milliampères). We have tested this by sticking needles deeply into the arms and legs, even making an extensive skin incision for a phlegmon of the hand, and have made many experiments for ruling out the psychic factor, of which we were at first extremely suspicious. This we have been able to do to our entire satisfaction, adjusting our current so that the slightest increase we were capable of producing on our rheostat would mark a change from cutaneous sensibility to pain to insensibility.

Rapidity of Revolution.—During our experiments it was noted that the more rapid the revolutions of the wheel the less were the disagreeable sensations experienced. We were also impressed with a remark of Butcher in his comment on Leduc's work. "The inhibition is produced," he says, "by an electric stimulation of the nerve cells with a rhythm which is incompatible with their physiologic activity." Believing that the number of revolutions we had used were too low, we had constructed the cylinder interrupter shown in Figure 2. This interrupts the current eight times to each revolution, the period being regulated by setting the brush marked A at various points on the scale. It may be stated that this interrupter gave no better results and that with greater rapidity of revolution and increase of period the current tends to assume more and more the characteristics of the galvanic current.

Regional Anesthesia.—Leduc and Robinovitch claim to have obtained regional anesthesia with a mild current, one electrode being placed on a superficial sensory or mixed nerve (median, at the wrist), while the indifferent electrode is in contact with the body. Our numerous experiments in man show only a slight numbness in several subjects, absolutely nothing suggestive of analgesia in many others.

RESUSCITATION

An animal electrocuted by the Leduc current may be resuscitated by provoking rhythmic muscular contractions with the same current that caused the animal's apparent death. A low voltage of very short duration should be used and the normal respiratory rate followed. We have found this measure of great value in respiratory and cardiac disturbances and have repeatedly operated on dogs after having resuscitated them from what seemed certain death. Dr. Louise Robinovitch claims to have rendered this method of resuscitation absolutely safe and trustworthy, both in animals and in man, by increasing the voltage and applying the cathode to the upper dorsal region, thus excluding the central nervous system. Whether or not the current thus applied differs in effect from the well-known faradic application we are not prepared to state.

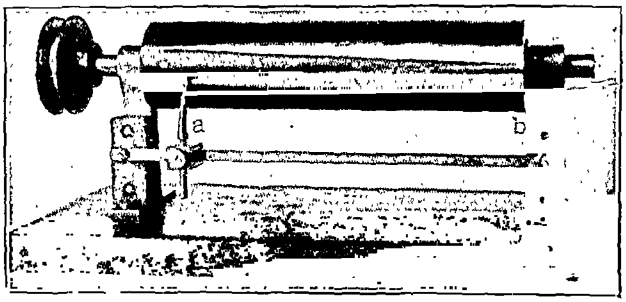

Fig. 2.—Authors' cylinder interrupter. Eight triangular steel plates are fastened to an insulating surface and turned to a perfect cylinder. The fixed brush is placed at b. In the position of the movable brush (a) the current is active over a period of 1 and passive over a period of 9.

CONCLUSIONS

According to the potential used and the position of the electrodes, the Leduc current may produce three different conditions, which appear in the following order:

1. Analgesia, superficial, deep, or both.
2. Respiratory and cardiac inhibition. Epilepsy.
3. Electrocution.

The close interrelation of these conditions constitutes the element of danger in Leduc's current.

From our experiments on rabbits we cannot agree with Leduc that the condition here described should be classed as sleep in the generally accepted sense, and we offer as arguments the following: the frequent rigidity and tremor in the limbs, the increase in blood-pressure, and the absence of pupillary contraction.

The multiplicity of factors involved in the application of the Leduc current easily accounts for the inconstancy of experimental results. Its practical value in canine or experimental surgery is consequently almost *nil;* and, unless the technic is thoroughly understood, its use as an analgesic agent may not be devoid of danger. It will require a vast amount of investigation before we may hope to find in electricity a safe and reliable agent, capable of replacing chemical narcosis or reinforcing "Nature's soft nurse," sleep.

ABSTRACT OF DISCUSSION

Dr. Louise G. Robinovitch, New York: In repeating my experiments on electric anesthesia, Drs. Tait and Russ unfortunately used the wrong electric source, the wrong motor and the wrong interrupter. They used mercury batteries, whereas I pointed out, in 1905, the necessity of using accumulators of large capacity—200 amperes. The interrupter they used I discarded three years ago as a dangerous instrument; the only safe interrupter for this work is the one I have perfected in every detail. The motor they used is a dangerous motor for this work. The instrumental technic is fully presented in my latest papers on the subject. I was the first to apply electric anesthesia in laboratory surgery for major operations on dogs (exposing the carotid artery, laparotomy, etc.), and for the last three years I have utilized this method of anesthesia instead of ether and chloroform. In clinical work I utilize this current with gratifying results, in various neurologic and psychiatric affections. Two years ago I stated in my contribution to the "Reference Handbook of Medical Sciences" that a physician was not qualified to practice electric anesthesia on man unless he had had two years' daily experience in this work; let me mention now an additional requirement: at least some elementary knowledge of the fundamental principles of electricity.

On resuscitation of subjects in a condition of apparent death caused by chloroform, ether, electrocution, morphin, drowning, etc., experimentors in this work have been committing two errors: they included the victim's head in the circuit, and the current used was of dangerous quality and voltage. Professor Battelli uses the alternating current and high voltage. I exclude the head from the circuit and use a low potential, from 15 to 70 volts (for dogs), and currents less destructive to cellular life than is the alternating current. While experimenting on the cerebral circulation in epilepsy I saw that every closure of the circuit caused profound cerebral anemia at the moment of closure; hence, during resuscitation the medulla oblongata with the cardiac and respiratory centers should be excluded from the circuit during the rhythmic excitations practiced for the purpose of causing artificial respiration and blood pressure. Duration of closure is from 1/3 to 1/2 second; that of opening of circuit from 1 to 1/12 seconds; the cathode is at the back of the chest, the anode is at the loins. The artificial heart beats and respirations are regulated at will in amplitude by the voltage used. Strict economy should be observed or the useful and respiratory excitability may be exhausted prematurely. For hospital work I use the current applied for anesthesia. But for emergency resuscitation in the street, I use an induction coil of my own model made for this purpose. No other method of resuscitation presents the facility of causing artificial heart beats and respirations. I have revived a patient in profound syncope caused by chronic morphin poisoning, after fruitless efforts of my colleagues during a period of twenty minutes to revive the patient with the usual methods. My work on resuscitation after chloroform poisoning, electrocution, etc., will appear shortly; an abstract of it appeared last November.

Dr. George Emerson Brewer, New York: I did not intend to speak of electric anesthesia because the limited experimental work I have done in that direction has been unsatisfactory, but I agree largely with the work of Drs. Tait and Russ. The method was tried in the experimental laboratory of the College of Physicians and Surgeons two years ago for several months. It was found that in a very large number of cases in which we applied this treatment to dogs, the results were, first, a period of excitement; second, a period of muscular spasm; third, often complete surgical anesthesia; and in a certain number of cases death. The period of excitement seemed to depend on the resistance of the animal to the current. Two dogs of the same weight reacted differently to the current applied in exactly the same manner. We were led to believe that there is a very decided difference of resistance in dogs of the same weight. However, this may or may not be true, but without going into the details of the experiments, in which we lost many dogs and produced evidence of a good deal of suffering in others, I will say that we did produce profound surgical anesthesia in a certain number of cases, almost perfect surgical anesthesia, and we were able to perform a number of operations, such as thyroidectomy and enterostomy, but these cases were the exceptional ones. The great majority of the animals were either in a constant state of excitement or spasm, the anesthesia was imperfect, or the animal died. We concluded that whereas perfected methods and better technic might in the future give a current which would produce anesthesia and be of value, up to the present time our experiments were so unsatisfactory that we did not feel justified in applying the method to the human being.

ACHONDROPLASIA *

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GEORGE L. de SCHWEINITZ, M.D., and HENRY K. PANCOAST, M.D.
PHILADELPHIA.

Achondroplasia, a chondral dystrophy, has been known under the synonyms of "chondrodystropia fetalis," "fetal rickets," "fetal cretinism" and "micromelia." Sommering first described it in 1791. Achondroplasia is of great antiquity. Pernet draws attention to the fact that at the British Museum there are a number of glazed earthenware images, which are unquestionably models of achondroplastic individuals. They were represented as dwarfs with big heads, crooked legs, very long arms, etc.

The pathology was not understood until Parrot differentiated achondroplasia from syphilis and rickets in 1878.

Innumerable writers have considered the subject since that time. Schirmer[1] gives 110 references. To this article and to the earlier article of Porak published in 1889, the reader is referred for a full exposition of the entire subject. It would appear to us that Porak's article and Schirmer's are the ones on which the entire literature of the subject is based, little new having been added since they wrote, though many cases have been reported. Of the articles in the British language, perhaps Rankins and Mackey's[2] article is the fullest and most satisfactory.

The characteristics of achondroplastic individuals are:

1.—Short stature of adult achondroplastics. The average height, according to Schirmer, is from 38 to 53 inches. The patients here reported have the following height:

Boy 1 year old	23	inches
Boy 16 years old	36½	inches
Woman 57 years old	48	inches
Skeleton	45	inches

2. Normal length of the trunk as compared with the short limbs (Fig. 1). The measurements in our cases are as follows:

	Height sitting	Length of legs.	Length of arms.
Boy 1 year	16	8	7
Boy 16 years	22½	15	10
Woman 57 years	33	20½	14½
Skeleton	27	18	12½

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909. Because of lack of space, the article is here abbreviated by the omission of part of the case reports, but the complete article appears in the Transactions of the Section and in the authors' reprints.

[1] Schirmer: Centralbl. f. d. Grenzgeb. d. Med. u. Chir., 1907, *No. 10.*

[2] Rankins and Mackey: Brit. Med. Jour., June 30, 1900.

3. Marked bowing of both upper and lower extremities. The humerus, the ulna and the radius, the femur and the tibia and fibula in all of our cases are remarkably bowed. The femurs are unusually straight in the skeleton (Fig. 2).

4. Unusual prominence of the points of attachment of the muscles on the bones of both upper and lower extremities. This is well seen in the radiographs, and in the photograph of the skeleton.

5. All the fingers are relatively of the same length. There is a peculiar separation of the second and third fingers at the second phalangeal joints, causing the fingers to spread out the so-called trident hand (Fig. 3). This may be seen in the accompanying illustrations, and by these measurements:

	First finger.	Second finger.	Third finger.	Fourth finger.
Boy 1 year	1½	1½	1½	1⅜
Boy 16 years	2⅛	2⅛	2⅛	1¾
Woman 57 years	3	3⅛	3⅛	2⅞
Skeleton	2½	2½	2¾	2½

It will be seen that the little finger in all of the four patients is slightly shorter than the others.

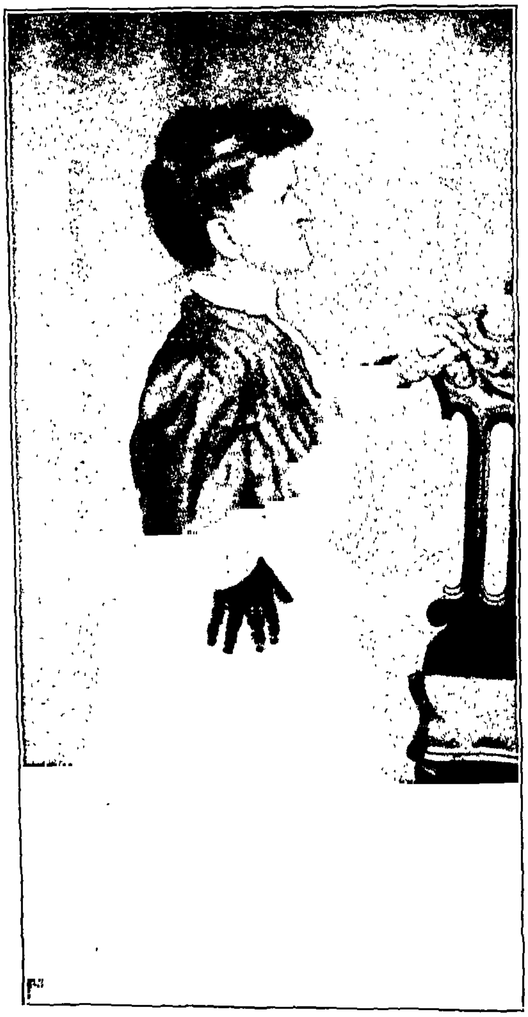

Fig. 1.—Achondroplastic. Woman with characteristic deformities: height 48 inches, age 57 years.

6. Depression of the base of the nose, "pug-nose." This was formerly thought to be due to congenital syphilis, but Virchow pointed out that it was due to a premature union of the bones at the base of the skull, or as it is put, a premature synostosis tribasilaris.

In the normal individual there is no bony union in this situation until early adult life, but in achondroplastics the union is complete at birth. These features are well shown in our photographs, and are particularly well marked in the comparative photographs of the skulls (Fig. 4).

7. The vault of the cranium is unusually large, as compared with the base of the skull and the face. The narrow base of the skull is shown by the measurements from mastoid to mastoid around the back of the head.

Child 1 year	4¾ inches
Boy 16 years	5½ inches
Woman 57 years	6 inches

8. The pelvis is small. Porak has cited many measurements of pelvis, and several instances in which the small pelves required Cesarean section when achondroplastic women were pregnant. The measurements of our skeleton's pelvis are:

Internal conjugate	1½ inches
Transverse	3½ inches
Oblique	3 inches
Circumference of crest of ilia	30 inches

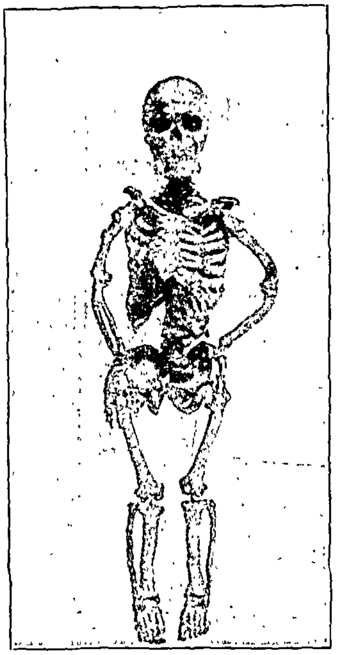

Fig. 2.—Skeleton of an achondroplastic; height 45 inches.

9. Lumbar lordosis is present without exception, as is the protuberant abdomen (Fig. 5).

10. The hair is soft, and abundant in the normal situations.

11. Normal intellect. These individuals when they reach adult life are often unusually brilliant. Our adult patient has unusual mental development for a woman of her social standing. The infant appears normal. The boy of 16 has the mentality of a young child, but this is doubtless due to the hereditary lues.

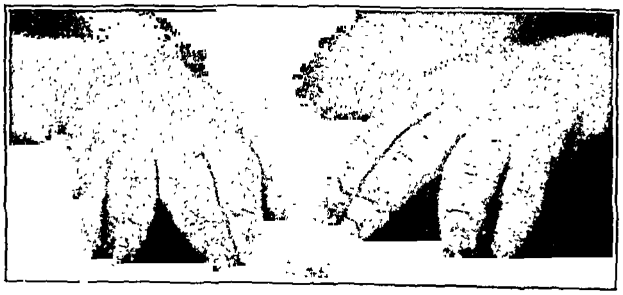

Fig. 3.—The "trident hands."

12. The genitalia and sexual instincts are normal. The disparity in size between the penis and the body has often led to ludicrous mistakes by the uninitiated.

13. There is a tendency to superabundance of fat. This is marked in our two young patients, but is absent in the woman.

14. The deformity is congenital. In all the cases reported the condition was present at birth. In our own young child

it was observed soon. The deformities however, become more apparent as the individual grows. Many instances of premature infants are on record in which the lesions are well marked.

15. There is a marked decentralization of the body. The umbilicus is always below the middle, while in normal individuals over one year, it is above the middle point. Our measurements are as follows:

	Crown to umbilicus.	Umbilicus to soles of feet.
Boy 1 year	14 inches	9 inches
Boy 16 years	19½ inches	17 inches
Woman 57 years	25 inches	23 inches

One of us (McCombs) made measurements in sixteen children. In all the children (five) under one year the distance from the crown to the umbilicus was greater than from the umbilicus to the soles of the feet. From eleven of one year and over, the normal relations of greater length from umbilicus to soles obtained.

16. The tendency to hyprocephalus, to visceral weakness, and prolapse of the umbilical cord is apt to cause a premature birth and consequent death of the fetus. After birth at term the fetus is so handicapped with grave nervous diseases and lack of general nutrition that early death is common; hence relatively few achondroplastics reach adult life.

The pathology of the condition is now well understood. The primary condition is a disturbance of the cartilage formation, while the periosteal growth is not interrupted. There is a marked interference with the normal rows of cartilage cells. Hence bones laid down in membrane are not involved. Therefore the bones of the vault of the cranium and the bones of the trunk are normal.

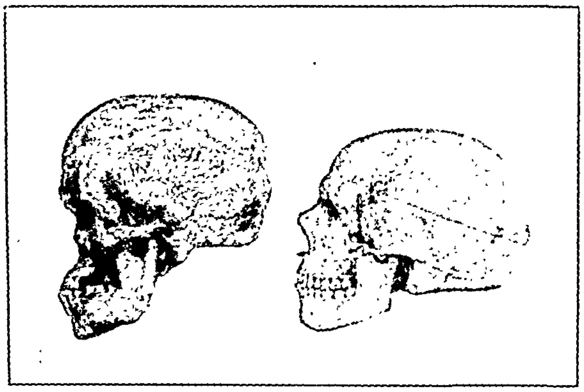

Fig. 4.—Achondroplastic and normal skulls. The skull on the left shows the retraction at the base of the nose (due to premature synostosis of the tribasilaris) and the prognathism.

Kauffmann has studied thirteen cases anatomically, and comes to the following conclusions:

The condition is the result of an interference in the growth of the cartilaginous portion of the skeleton. It is a chondral dystrophy; hence the name "chondrodystrophia fetalis." The interference in growth can begin at different periods of intrauterine life. The earlier the beginning of the disease, the shorter the bones remain. He distinguishes the following types:

1. Chondrodystrophia fetalis hypoplastica. In this the epiphyses are of normal size and consistency, and there is an interference in the growth of the cartilage cells.

2. A hyperplastic form, in which the epiphyses are somewhat lengthened, of variable consistence, and there is an increase in the cartilage cells.

3. Chondrodystrophia fetalis malacia, in which the intercellular substance is softened and rich in vessels.

All recent observers are agreed that the first or hypoplastic form is the most common.

Turner has found that at the junction of the epiphysis and the diaphysis the cartilage cells are abnormal in their size and form and arrangement, and that there is an absence of the primary bony areola, which is usual in the axis of the bone. The diaphysis, therefore, can not grow

There is an insertion of the periosteum between the epiphysis and the diaphysis, so that the ossification of the cartilage cells in the primary areola is hindered. The epiphysis and the diaphysis are sometimes ununited. The periosteum is thickened in points along the shaft so that these form bosses or exostoses along the shaft. The enlargement at the epiphyseal ends of the long bones is due to a cup-like formation of the diaphysis around the epiphysis, the epiphysis itself not being enlarged. This is well shown by x-rays, autopsies and the skeleton herewith presented.

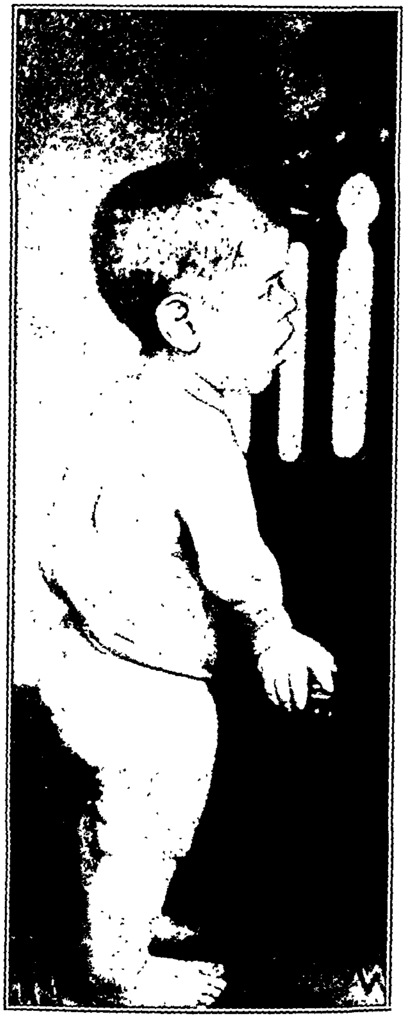

Fig. 5.—Side view of boy. Curvature of spine, shortness of the extremities and curvature of bones shown.

The etiology is obscure. The disease appears to be hereditary in certain instances, many cases being cited. In none of our cases can heredity play the slightest rôle

It has been suggested that the condition is due to the disturbance of some internal secretion. So far, however, we are in the dark on this subject.

Syphilis was supposed to be a cause, but Parrot's work put this question at rest. While syphilis and achondroplasia may occur in the same individual, as in our Case 2, the syphilis is not the cause of the achondroplasia. A case is quoted in which two normal parents had an achondroplastic child. Both parents contracted syphilis after the birth of the achondroplastic child, and the wife then gave birth to a syphilitic child, which was free from achondroplasia.

DIFFERENTIAL DIAGNOSIS

The conditions with which achondroplasia can be confounded are rickets, cretinism, congenital syphilis and osteogenesis imperfecta. Achondroplasia is a congenital disease. The lesions are complete at birth. The deformities present are but exaggerated with the growth of the individual. Rickets is a postnatal disease. The lesions are entirely different in the two affections, and may at once be differentiated by the *x*-ray. In achondroplasia, the lesion is in the cartilage; the epiphyses are about normal; the enlargement at the ends of the bone is due to cup-like projections of the diaphyses. In rickets the enlargement at the ends of the bones is in the epiphysis itself. There are enlargements forming bosses at the muscular attachments in achondroplasia. These are absent in rickets. In achondroplasia the bones are hard. In rickets they are soft. The chest and trunk are normal in achondroplasia; they are affected in rickets. There is pug-nose in achondroplasia, which is absent in rickets. The vault is normal in achondroplasia and bossed in rickets. The bones affected in achondroplasia are those laid down in cartilage, while any of the bones may be affected in rickets. Achondroplasia is a permanent lesion. A patient with rickets may recover. Apert says, "An individual is born achondroplastic and remains achondroplastic, but an individual may become rachitic and recover."

The differential points from cretinism are the following: A cretin lacks intelligence. Achondroplastics are of normal or unusually bright intellect. The hair of cretins is scant and coarse; that of achondroplastics abundant and normal. The tongue of a cretin is protruded, and there is drooling; this is absent in achondroplastics.

The bone lesion in cretinism is simply an underdevelopment. This is well seen in our *x*-rays. Cretins recover under thyroid extract when treated early. This material has no effect on achondroplastics. Umbilical hernia is the rule in cretins, but absent in achondroplastics.

Achondroplasia may be mistaken for congenital syphilis. In syphilis the pug-nose is due to actual bone disease; in achondroplasia it is due to a premature union of the bones at the base of the skull.

The *x*-ray will always make the diagnosis, as is shown in our Case 2, in which both diseases exist in the same individual.

To quote Schirmer in regard to achondroplasia and osteogenesis imperfecta: "In spite of the analogous clinical symptoms, the anatomic substratum of the two affections is entirely different. Achondroplasia is permanently a defect in the cartilage, while osteogenesis imperfecta is a functional disturbance of the periosteum and the bony tissue."

TREATMENT

No known substance has yet been found to affect achondroplasia. Extract of thymus gland has been tried, but found wanting. Perhaps later experiments with some internal gland may be found of value, but, as the disease is practically complete at birth, there is little hope of this.

Courtin (quoted by Schirmer) attempted surgical interference with what he believes to be of some value, but this is also problematical.

OCULAR EXAMINATION BY DR. G. L. DE SCHWEINITZ

The eye condition observed by Dr. de Schweinitz in Case 2 is as follows:

Right Eye.—Vision equaled no light perception. Cornea nebulous down and in. Pupil round, unresponsive to all stimuli, 8 mm. in diameter. The ophthalmoscope revealed a nearly round, greenish-white atrophic disc, with a shallow atrophic excavation, but no displacement of the vessels toward the edge of the excavation. There were no signs of previous inflammation in and around the disc. The vessels were small, but apparently carried normally tinted blood. Throughout the eye-ground there were numerous yellowish areas about the size of a large pin-head, lying beneath the plane of the retinal vessels and apparently situated in the chorioid.

Left Eye.—Vision equaled doubtful light perception; that is, the boy occasionally turned his head toward a strong electric light. The pupil was slightly oval, 4 mm. in diameter, and unresponsive to stimuli. There were delicate strings of grayish lymph along its lower margin, indicating the presence of former inflammation in the iris, but there were no distinct synechiæ. The details of the fundus were seen only with difficulty, but the disc apparently was as atrophic as it was in the opposite eye.

The eyes were divergent, prominent, and their refraction myopic. There was no lack of rotation in any direction, and the associated movements were perfectly performed except in the act of convergence, which was entirely absent. There were no active inflammatory lesions in any of the coats of the eye, but at times the conjunctiva was congested, and for periods had presented the ordinary symptoms of catarrhal conjunctivitis. The tension of the ocular globe was normal. There was no anesthesia of the cornea or the conjunctiva.

Diagnosis.—This case is a peculiarly difficult one. The first impression is that of a cretin, but the soft skin and the lack of supraclavicular pads and the absence of umbilical hernia are against this diagnosis, while the pug-nose, the bowed extremities, the large cranial vault, the trident hand, support the diagnosis of achondroplasia, which is made certain by the *x*-ray. The mental condition of the patient can be readily accounted for by the hereditary lues. Schirmer in his article says that achondroplastics are without exception of normal mental caliber. Here unquestionably the achondroplasia has nothing whatever to do with the mental defect.

CHARACTERISTIC RADIOGRAPHIC FEATURES OF ACHONDROPLASIA, CRETINISM AND RICKETS.

BY HENRY K. PANCOAST, M.D.

ACHONDROPLASIA

The experience derived from *x*-ray examinations of three cases of achondroplasia for Dr. Fussell during the past three months, and the unusual opportunity thereby offered for a radiographic study, have convinced me that the radiograph is both an easy and a certain method of diagnosis in this condition, provided a few characteristic appearances corresponding to certain of the essential clinical and pathologic features of the disease are carefully observed. Case 2 was the first of the kind I had ever had the privilege of examining, or had ever seen in fact. It was referred with a provisional diagnosis of cretinsm, and yet so prominent were certain peculiar features observed in the pictures that I had no hesitation in suggesting an *x*-ray diagnosis of achondroplasia simply by identifying these striking appearances from a knowledge of the condition limited to its essential characteristics a based solely on their graphic descriptions.

An *x*-ray diagnosis can be readily made at any age, except possibly in infancy, before ossification is normally far advanced at the knee, upper end of the femur and both ends of the humerus. It is easiest during childhood, when these epiphyses are well developed, but again it requires more careful observation in adults, after these epiphyses have united, and there are to be found only the results of the abnormal processes of development in these regions. At any age, however, separate and distinctly typical features are to be observed in the appearances of the shafts of the long and the short long bones and also in the cancellous structure.

The more important characteristic radiographic appearances can be classified conveniently in three groups as follows:

A. EPIPHYSES OF THE LONG BONES

1. A moderate delay in the beginning of ossification.
2. A moderate delay in the progress of ossification, which tends later to an actual deficiency in development rather than to delayed union.

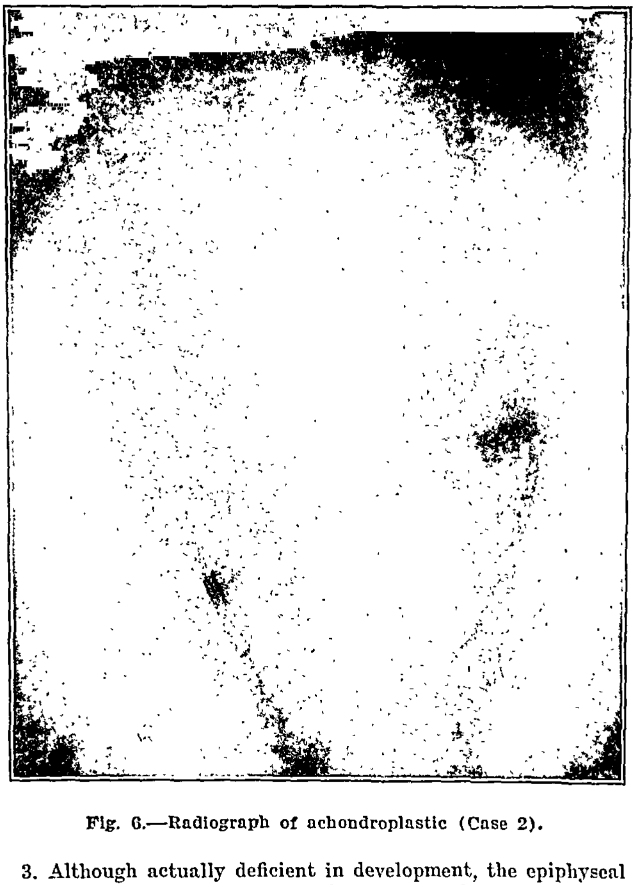

Fig. 6.—Radiograph of achondroplastic (Case 2).

3. Although actually deficient in development, the epiphyseal ends in children and fully ossified ends in adults are relatively far better developed than the shafts of the bones.
4. Deficient and irregular ossification of the ends of the diaphyses of many of the bones is very evident, especially in early childhood or infancy, and particularly at the knee.
5. The bones of the carpus and tarsus and the patella exhibit a corresponding delay in ossification and resulting deficiency in development.
6. The long bones appear to manifest a relatively greater degree of development in the immediate neighborhood of epiphyseal centers, whether their growth is largely dependent on the latter, as at the knee, or is entirely independent, as at the olecranon and lesser trochanter. In the latter instance this is manifest even before epiphyseal ossification begins.

B. SHAFTS OF THE LONG BONES

1. These are much shorter than in normal individuals of the same age. This is characteristic of all of the long and the short long bones of the extremities.
2. The same bones are relatively thick for their length.
3. There is a tendency toward the growth of exostoses from the long bones of the upper extremities, with rather symmetrical arrangement on the two sides, but such growths are noticeably absent in the lower extremities.
4. There is decided bowing of many of the long bones, especially the tibia, femur, and those of the forearm. In the two first mentioned this is most marked near or at the epiphyseal ends, and is there shown to be largely a result of deficient and irregular development and ossification (Fig. 6).

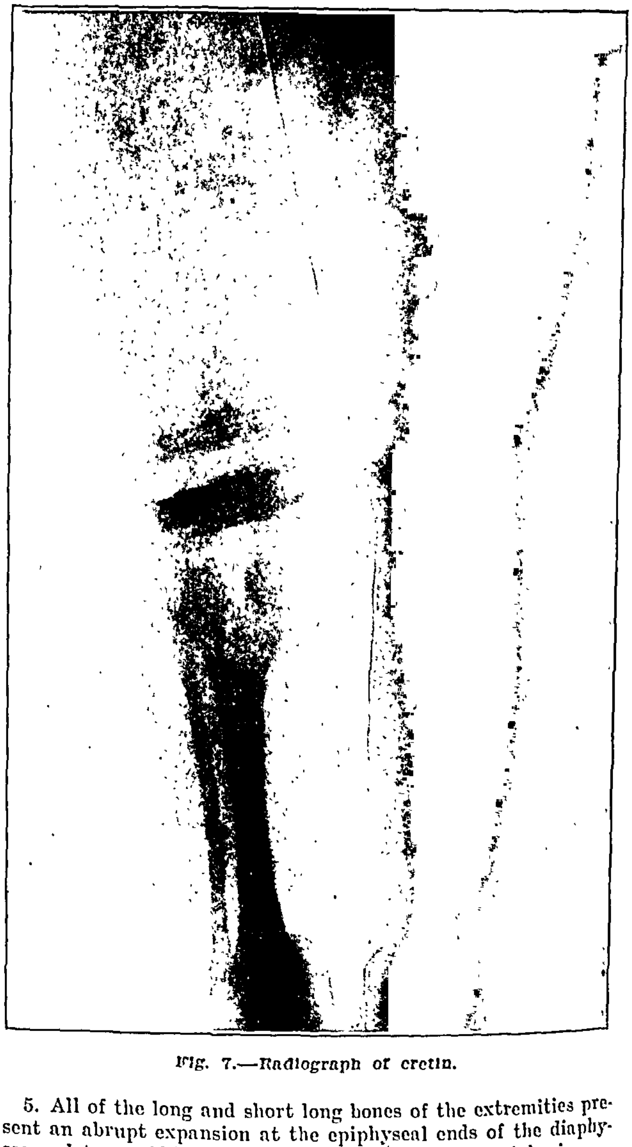

Fig. 7.—Radiograph of cretin.

5. All of the long and short long bones of the extremities present an abrupt expansion at the epiphyseal ends of the diaphyses and to a width corresponding to that of the epiphysis.

C. STRUCTURE OF THE BONES

1. There is a noticeable deficiency in development of the cancellous structure at the ends or epiphyses of the long bones and in those of the carpus and tarsus. It may be observed to best advantage perhaps in the os calcis. The appearance is characterized by relatively few walls and resulting large Haversian spaces. The walls are usually more noticeable or better developed in one general direction. The appearance is quite different from that of the rarefaction so frequently seen in such conditions as chronic arthritis, and in which the walls have been absorbed and rendered thin and the spaces correspondingly large, *without reduction in the number of spaces.*

2. The medullary canals of the relatively thick bones are apt to appear too wide and the compact walls too thin for the diameter of the bone.

CRETINISM

The *x*-ray diagnosis of this condition is by no means as easy or as certain as is the case in connection with achondroplasia, for the reason that there are fewer striking peculiarities and characteristic appearances to distinguish it from other conditions aside from achondroplasia. A similar and comparative summary of the case of cretinism follows:

A. EPIPHYSES OF THE LONG BONES

An exact comparison is difficult because of the difference in ages of this one patient and the other three, and the normal individual has been used as the basis of the comparative data in this condition. The epiphyses appear to be generally deficient in size and development, and ossification is correspondingly delayed.

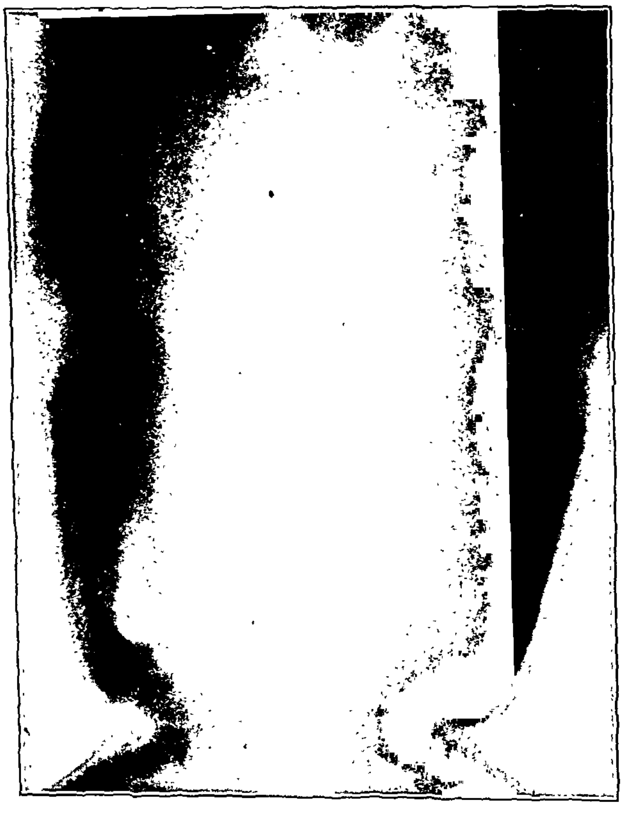

Fig. 8.—Radiograph of patient with rickets.

There is a very noticeable delay in ossification of the carpal bones. There is not the relatively greater degree of development in the immediate regions of epiphyseal centers which is so noticeable in achondroplasia, and the ends of the diaphyses do not expand abruptly (Fig. 7).

B. SHAFTS OF THE LONG BONES

The shafts are deficient in length actually, but not so relatively short as in achondroplasia. Moreover, the diameter or thickness is about right for the length. Exostoses are not present. Bowing is not a feature of importance in this condition.

C. STRUCTURE OF THE LONG BONES

The deficiency in the development of the cancellous structure so characteristic of achondroplasia is not a feature of this condition, in which this structure is not distinctly abnormal in appearance.

RICKETS

The radiograph of the lower extremities in a typical case of rickets and showing the characteristic appearances and deformities have been employed for the purpose of comparison.

A. EPIPHYSES OF THE LONG BONES

1. The extent of ossification does not indicate a delay in the process for the age of the individual, although the amount of calcification may be deficient.
2. Ossification and development of the epiphyses is far more extensive than in the extreme ends of the diaphyses, where the greatest resulting deformities exist, although calcification is deficient.
3. The ends of the ossified portions of the diaphyses are wider than the ossified centers in the epiphyses, indicating a wide zone of cartilage at the epiphyseal lines, which is typical of rickets.
4. The ends of the diaphyses show a decidedly irregular line of ossification resulting from temporary absorption of trabeculæ and failure of ossification, but the appearance is quite different from that seen in achondroplasia at the same age.
5. The carpal and tarsal bones and patella do not share in the process to any extent, and do not exhibit any delay in ossification or deficiency in development.
6. There is no apparent relative overdevelopment in the regions of epiphyseal centers as in achondroplasia, especially in such regions as the trochanters.

B. SHAFTS OF THE LONG BONES

1. The long bones of the lower extremity are not actually so much shorter than normal as in achondroplasia, though they may appear so because of resulting deformities. The short long bones are not affected noticeably.
2. Their thickness is not distinctly abnormal for their length.
3. There is no special tendency toward the growth of exostoses from the bones of the upper extremities.
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5. The apparent expansion of the ends of the diaphyses presents an appearance somewhat similar to that seen in achondroplasia, but in reality it is quite different. The ends of the diaphyses are not ossified or the ossification is very irregular at the exact locality in which the abrupt expansion occurs in achondroplasia (Fig. 8).

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The trabeculæ of the cancellous structure may become thinner or entirely disappear in rickets, but when visible the peculiar appearance seen in achondroplasia is not evident.

128 South Seventeenth Street.—1705 Walnut Street—2113 Chestnut Street.—4238 Pine Street.

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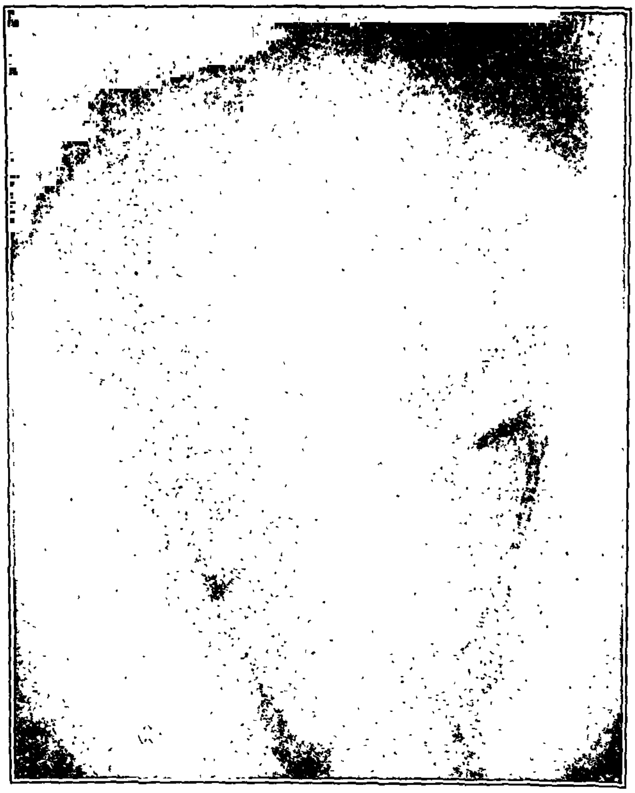

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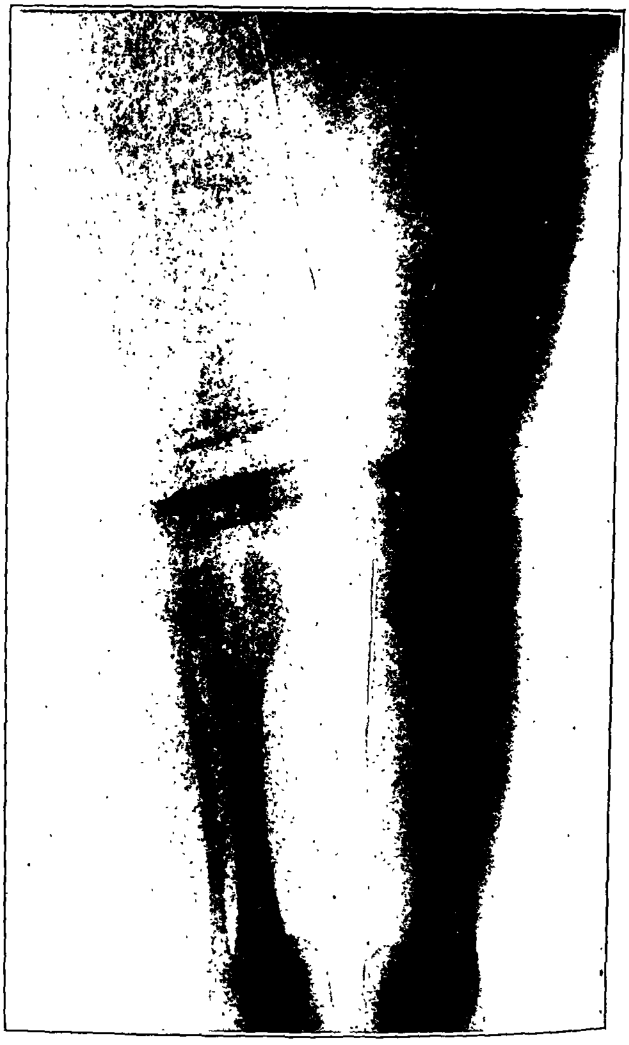

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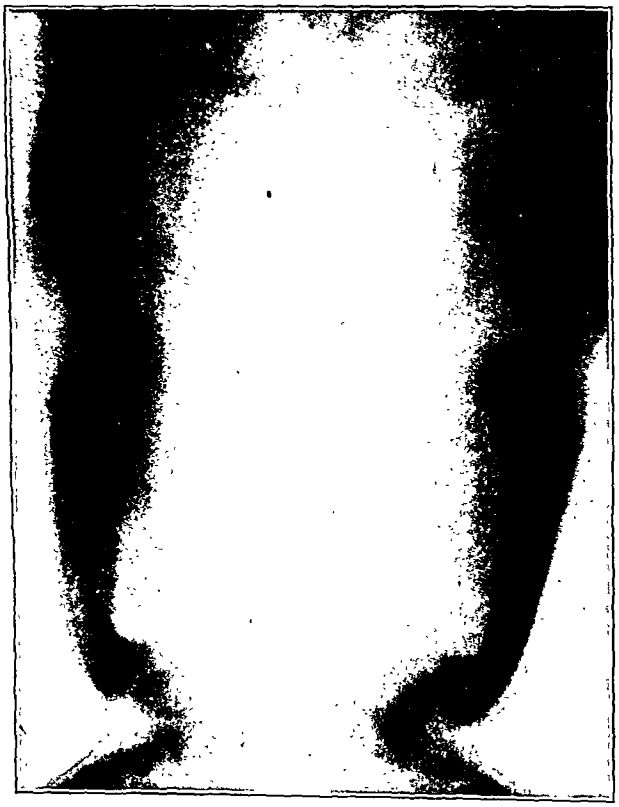

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Dr. D. J. M. Miller, Atlantic City: The affection is not uncommon. In my paper mentioned by Dr. McCombs, I spoke of the fact that I had seen several individuals on the streets of Philadelphia, who, although I had never examined them, bore all the earmarks of achondroplasia. Before I had read the account of the disease written by two Englishmen, whose names I do not recall, I thought one case that I had seen in Philadelphia was a case of fetal rickets, but their papers led me to recognize the condition. Another thing peculiar about these people is that they are always particularly intelligent, and in this respect achondroplasia differs from other forms of dwarfism. There is really no treatment, for this condition takes place in early fetal life. Those bones that ossify after birth are not affected; only those beginning in cartilage, during early fetal life, are the ones principally involved. When the child is born, the damage has been done.

Dr. C. P. Emerson, Clifton Springs, N. Y.: I have had opportunity to study this condition in more than one country, and I think it is pretty certain now that this is not always a disease of fetal life, but in some cases one of infancy, and that it may be developed as late as puberty. I have such a case now in Baltimore. Very often we see the statement made that the mother was so stupid that she did not recognize anything abnormal in her baby. I do not think that it is a case of stupidity on the part of the mother in this instance, but that the baby was probably normal. The patient to whom I refer had when a baby an acute illness, sweated at night, fretted and disliked to be touched. It was after this attack of illness that the condition apparently developed, and he is now a typical achondroplasiac. Recently a case was reported in which an infant had been pronounced normal at birth by both mother and grandmother. At least forty examinations had been made by different physicians, none of whom reported anything abnormal, and later achondroplasia occurred. Recently an Austrian has reported some investigations showing that this condition does develop after birth. It is possible that these are the children who show the abnormal mental development. To say that all achondroplasiacs are mentally deficient, is not true. It is true that the boys and girls with achondroplasia do not stay in school because they are made unhappy by their schoolmates, but those children who do go to school, or who have special tutors, develop well.

Dr. L. T. Royster, Norfolk: I have some pictures here that may be of interest. This child is now about 14. The pictures were taken when it was about 6½ years old. This case had its amusing side, for the accompanying hydrocephalus was such that when the child was on the floor and desired to get up it would first elevate its hips and then lift its head with its hands.

Dr. G. L. de Schweinitz, Philadelphia: A complete report of the ocular symptoms of the case presented will be found in Dr. Fussell's paper. It is interesting to note that the patient shows a complete optic atrophy in both eyes due, not to the achondroplasia, but in all probability to an accompanying hereditary luetic condition.

Dr. M. H. Fussell, Philadelphia: I made the distinct statement that achondroplasiacs are particularly bright mentally. They are not deficient mentally. I have particular knowledge of one individual who was always at the head of his classes. In regard to its development in infancy or at puberty, I believe all authorities are agreed that that is not a fact, and that once an achondroplasiac, always an achondroplasiac. There are many premature fetuses in which an examination has been made showing typical achondroplasia. I would suggest that when cases are reported as having developed in infancy that they are typical achondroplasiacs, but were not recognized early. After I had seen one case and failed to recognize it, it so impressed itself on me that in future I was more careful. As the children grow the deformity increases, and then it is easily noticed. It has been said that the treatment is *nil*, and so it is. The condition is complete at birth, and hence treatment would be useless. This little infant could not sit up at six months, but after massage he is now able to sit up and appears as a child of fourteen months should appear except for the shape of his limbs.

SOME REASONS WHY A SCHOOL OF TROPICAL MEDICINE SHOULD BE ESTABLISHED IN THE UNITED STATES

J. A. NYDEGGER, M.D.
Surgeon U. S. Public Health and Marine-Hospital Service
PITTSBURG, PA.

While secretary of the state for colonies the late Joseph Chamberlain, of England, with the object of affording instruction in tropical medicine to medical officers in the colonial service, caused to be established in London a special school of tropical medicine. Previous to its inception there was no adequate means whereby private practitioners or medical missionaries about to proceed to the tropics could acquire special information concerning, or obtain practical instruction in, an important section of the diseases they would be called on to treat. Had the school been confined to the training of those about to enter the colonial government service, the scheme would have been bereft of much of its usefulness, and the natives and European residents in the colonies and dependencies would have suffered accordingly.

As I write these lines there lies before me the prospectus of the Liverpool School of Tropical Medicine and the syllabus of the London School of Tropical Medicine for the current year. The perusal of these respective booklets can not fail to convince one of the wisdom and foresight of the founders. These schools are now in their tenth and eleventh years of existence, respectively, are in a flourishing condition, and are splendidly fulfilling the object for which they were established. This statement is fully verified by the fact that they have enrolled on their registers as students medical practitioners from many parts of the world, including a number of civilian practitioners from the United States and medical officers of our army and navy.

A decade and a half ago the United States was not a colonizing power. Immigration from countries where tropical diseases prevail was far less than now, and therefore the need of a school of tropical medicine, established on lines similar to those of England and Germany, was much less marked than at the present time. It may truthfully be stated that within the last decade this country has stepped out from her solitude to take the place which rightly belongs to her among the great peoples. By acquirement of her colonial dependencies, still more by the inevitable exigencies of her commerce, she has chosen (as she had no other choice) to make herself an interested party in all parts of the world. Our colonial dependencies now include the Territory of Hawaii, the Philippine Islands, Guam, Porto Rico, the Panama Canal Zone, and this country practically exercises a health protectorate over the seaports of the island of Cuba and of those of the Central American states. In all of the above-mentioned dependencies and countries tropical diseases prevail extensively. And, indeed, we do not have to go as far away as the tropics to find many of the so-called tropical diseases. In the Southern states are found all varieties of malaria, amebic dysentery, hookworm disease, and others of the tropical diseases in goodly numbers. The present position, then, of the United States may be likened, in this particular respect, to that of England some years ago, when Mr. Chamberlain, in spite of opposition, established the nucleus of what is now known as the London School of Tropical Medicine.

Germany, about the same time as England, in order to provide a proper course of instructions in tropical diseases for her colonial medical officers and other civil practitioners, established a school similar to the London school; and this school has likewise supplied a much felt want by affording special instructions in diseases of the tropics. This school has also been well patronized and has proved highly successful in every way.

Our country, while occupying the front rank in all else that appertains to the advancement of medical knowledge and science, lags behind her sister countries of Europe in this particular. In taking a survey of this matter, the question arises, Why are we so tardy in recognizing the great importance to the profession at large of the United States in establishing a special school for the teaching of tropical diseases? Surely this can not be owing to the lack of interest we have in the diseases of the tropics, for as practitioners we are daily brought in contact with an ever-increasing number of these most interesting conditions. Again it can not be for the want of material, which is to be had in great variety. Again, we have available as teachers and instructors in such a school professional men of wide practical experience in these diseases, as also in the study and observation of them.

But this country has changed much in late years. She is a growing commercial power. The maritime trade of the United States with the countries situated to the southward and westward in the tropics is increasing by leaps and bounds, and is as yet only in its infancy. As the facilities for travel between our seaport cities and these countries become more improved and we are brought into closer touch with them, so will the travel to and from them increase proportionately, and therefore will expose an increased number of our people to the existing diseases of these countries. Our intercourse with tropical regions is rapidly growing. The great increase of immigration to the United States from these countries will bring the diseases fast enough.

The force of the above argument was convincingly demonstrated during and after the late Spanish-American war in Cuba, and especially since our occupation of the Philippines. Discharged and invalided soldiers returning from these respective countries to the United States scattered far and wide, and the burden of treating those ill fell chiefly on the general practitioner. For this reason alone, if for no other, every practicing physician in the United States should be as familiar with tropical diseases as he is with the more commonly prevalent ones which he is called on to treat every day.

The important discoveries that have been made in the past decade through the study of tropical diseases, and the great scientific as well as commercial value attached to them, have brought these diseases into a prominence heretofore unknown, before both the profession and the public. To enunciate but a few of these diseases would be, first and foremost, to mention the relation which the mosquito (*Stegomyia calopus*) bears to the transmission of yellow fever, as was announced to the world by Reed and Carroll; the cause of the deadly sleeping sickness (trypanosomiasis) of South Africa, and its transmission to man by the bite of the stinging fly, *Glossina palpalis*, so patiently worked out by Bruce; the etiology of dysentery and its differentiation into two varieties, the bacillary and the amebic; and the relation of the hookworm to the anemias of the tropics. Other instances similar to the above might be cited, but it is unnecessary to proceed further.

Our American people are fast becoming great travelers, for both pleasure and business, and are to be found in all accessible parts of the globe. For this reason also the subject of tropical medicine is every day growing of more importance to the general practitioner, whether his practice be in the city or in the country.

While England has two schools, and Germany and France one each, where the teaching of tropical medicine is made a specialty, the United States has not a single one. It is true that four or five medical schools give special instructions on tropical medicine during the term, but, as the subject is divided among the various departments of the schools, it always will lack the thoroughness and completeness which is so essential to success. These courses consist chiefly of a few optionally attended lectures. So far as I have been able to ascertain, attendance on these courses as provided in our medical schools is not compulsory. Again, the lectures are often given by instructors who have not seen tropical diseases or if so only to a limited extent, and who therefore could have but little, if any, interest in the subject, and whose lectures could not be conducive to the stimulation of the lively interest so necessary on the part of the student.

Within the past few years there has been organized the American Society of Tropical Medicine. Let us hope that the day is not far distant when there will be found everywhere throughout the United States branch societies of this organization, at which the practitioners of the country as well as of the city may attend, hear papers read, see and examine exhibited cases and enter into the discussions; all of which would be of incalculable benefit to them in the absence of a centrally located school where special instruction may be had on the subject. There is a well-equipped school of this kind in Manila, but it is too far away to be of any benefit to the general practitioner of the United States. The schools in England and Germany are much nearer home, but even these, owing to the cost of travel, etc., can be reached by only a limited number.

The army and navy medical schools and the Hygienic Laboratory of the Public Health and Marine-Hospital Service in Washington give courses in tropical medicine, but in all of these the subject of tropical medicine is only one of the subjects studied and not the main subject, and, therefore, they could not be called, as they at present exist, schools of tropical medicine. The courses given on the subject of tropical medicine are intended mainly for the instruction of the medical officers of the respective medical corps, and if they are available at all to the general practitioner, in the present limited condition of these schools, it would be possible for only a limited number to receive instruction. These medical corps, through their officers, have done and continue to do remarkable and important work in the field of tropical diseases. What is needed is a special school, whether under government control and support or otherwise maintained, where tropical medicine is taught solely and exclusively.

It might not seem amiss to advance the argument that the American Society of Tropical Medicine might well take up, along with the other closely allied work, the cause of fostering and encouraging the speedy establishment of a school of tropical medicine in one of our large seaport cities. Of the cities that would be considered, New York would doubtless be the most practicable in point of location and desirability. This conclusion, it may be stated, is arrived at from several points of view. This city may truthfully be stated to have steamship and other communications with practically every seaport in the tropical and subtropical countries. The number of cases of tropical diseases seen in New York is much greater than one would suppose. A residence of about six years in and about New York convinces one of this fact. Within the past few months there were seen a number of cases of beriberi removed from one vessel in New York harbor. There were also seen in one hospital there (the United States Marine Hospital) several scores of cases of malarial fever, consisting of the tertian, quartan, estivoautumnal and pernicious types, a goodly number of cases of amebic dysentery, and several other rarer varieties of tropical diseases. The nearness of New York to the Southern states and its greatness as a business, industrial and social center make it admirably adapted to be the place of first choice.

When this school has been established, then and only then will all of our civil practitioners have placed at their disposal the means of obtaining thorough instruction in this most important branch of medicine. The demand for such a school is growing more pronounced each day. Let us, then, have a school of tropical medicine and satisfy this most worthy demand.

TRANSITORY URINARY FINDINGS ASSOCIATED WITH SOME DISEASES OF CHILDHOOD *

WALTER LESTER CARR, M.D.
NEW YORK

There are few practitioners of medicine who neglect acute changes that occur in the kidneys as complications or sequelæ of such diseases as scarlet fever, diphtheria, pneumonia, and acute arthritis. As the pathologic processes in these acute diseases are fairly definite, albumin and casts are easily detected on routine examination. Failure to watch the urine in such cases is unusual because text-books call attention to its importance and insist on the necessity of comparative analyses in making a prognosis.

There is, however, another class of diseases in which complications referable to the kidneys are less common and consequently more often neglected. This oversight may be, in part, because we have not had our attention directed to nephritic changes in the diseases referred to in this paper with any insistence as to their significance; or it may be that while the kidneys are diseased in some cases the urinary findings will be negative in a great many examinations. These negative results will no doubt be fewer when careful routine examinations are made in all diseases incident to childhood.

It may be well to premise by recalling to mind that the urine in early infancy is of low specific gravity (1004 to 1008), although the percentage of uric acid and urea is relatively high. Albumin and sugar may be found in the urine of apparently healthy infants, and the latter may be detected from time to time in the urine of babies fed on patented and oversweetened food. Hyaline casts and epithelial cells are not infrequent during the first few weeks.

As the kidneys have to remain functionally active during life, it is essential for us to discuss changes in their condition as shown on urinalysis. Not all the acute processes produce severe and lasting nephritic disease, but it is important that our examinations should detect all changes, no matter whether of the so-called functional type or of the slower and more insidious degenerative form. Jacobi, Koplik, and Morse in this country have directed attention to the necessity for frequent urinalyses in diarrheal and other intestinal disturbances.

The diseases in which urinalysis is often omitted are gastroenteric disorders, influenza, tonsillitis, and also in defective metabolism. Under the term "gastroenteric" I would include not only the acute infections of the summer weather, but also chronic or recurring gastric and intestinal indigestion.

Chapin found albumin in 75 out of 86 cases in which there was some disturbance of the gastroenteric tract. The albumin was recorded as a trace in 29; faint trace in 31; heavy trace in 15. Casts were found in 37 cases. In this group of cases there were 16 deaths, and, of these, 14 had albumin present, and 10 both albumin and casts. Thirty cases were examined for indican, and it was found in 22 cases.

Mason Knox and Meakins[1] found urine of abnormal character in 22 out of 53 cases of intestinal infection in infancy. The urinary changes were more frequent in ileocolitis than in dyspeptic or fermented diarrhea. These observers studied the infections occasioned by the colon bacillus with consequent pyelitis, etc.

Observations made by these and other clinicians show that, although the kidneys frequently escape injury in enteritis, they may become the seat of extensive secondary changes in this as in other forms of infection.

Jennings[2] states that acute degeneration of the kidneys is a common condition in acute gastroenteric diseases. In addition to the specific intestinal infection it may be caused by the various toxic products of erroneous metabolism occurring during a diarrhea.

Pyelitis from the colon bacillus or one of its associates may have its origin by invasion from the infected intestine, or through the blood stream or lymphatic structures. Pyelitis may cause delayed convalescence in enterocolitis or lengthen the period of weakness that follows an intestinal infection.

Herter, in the Carpenter Lectures before the New York Academy of Medicine, in 1898, states that the colon bacillus reaches the kidney through the blood stream by reason of some breach in the mucous membrane of the intestines. The symptoms of such an invasion are frequently indefinite, although fever and intestinal symptoms occur. Albumin may be absent from the urine, and pus cells few, but bacteria with the cultural character of the colon bacillus are found. Neglect to recognize pyelitis may result in exhaustion and death or cause tardy convalescence.

In influenza there may be changes of an acute degenerative type in the kidney, namely, urine of higher gravity than normal, with albumin in small amount, a few hyaline or hyalo-granular casts, without pus or blood, and with a normal urea excretion. More severe infections may cause an acute hemorrhagic nephritis,

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Spiegelberg states[3] that albuminuria appears in 6 to 10 per cent. of influenza cases in children. Hemenway, in a recent contribution,[4] reports a case of acute hemorrhagic nephritis in a girl of 4 in whom the influenza bacillus was cultured from the throat. The patient recovered.

In numerous examinations made of cases of vomiting known as cyclic or recurring, the urine is found to be of high specific gravity, and shows indican, acetone, and diacetic acid. In some patients the vomiting has partially yielded to treatment, but with an inherited lithemic history of gouty and rheumatic outbreaks in the patients and with albumin and casts occasionally present, I cannot feel that the non-persistence of casts is of no significance, for even if there is no definite nephritic and no cardiovascular changes are determinable I believe that the intestinal changes incident to lithemia are perhaps beginning but by regimen and diet may be retarded. One little girl under my care has a record of indican, acetone, occasional traces of albumin, and once in a great while of hyaline casts. I have been unable to find circulatory changes, but in view of a gouty family history and dry skin I am sure that the administration of alkalies and the free use of water are as important as if the patient were older and with definite interstitial processes in liver, kidneys, and heart.

After reviewing the literature and studying individual cases, there is every reason to believe that the majority of children who show albumin and hyaline casts in the urine during or after gastroenteric diseases and influenza recover. As, however, this belief in recovery is based largely on ignorance of the state of the kidney for the period following the acute disease or degeneration, I urge a routine examination of the urine of all children who have had indigestion, gastroenteritis and disturbances of metabolism. We should make every effort to watch such cases both during the time of the acute symptoms, and also for a number of months, possibly years, after their subsidence, to record the processes incident to kidney defects.

In closing, I wish to call attention to the need of examining the centrifuged sediment of urine, as casts may be detected in the sediment of urine that has not given the reaction for albumin.

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ABSTRACT OF DISCUSSION

Dr. John Lovett Morse, Boston: In conjunction with Mr. Crothers, I have recently summarized the results of the analysis of the urine of 700 consecutive babies at the Infants' and Floating hospitals in Boston; 300 were suffering from diseases of the gastrointestinal tract. In only 13 was the renal condition the cause of admission to the hospital and in 11 of these it was a pyelonephritis. Albumin was found in about 10 per cent. of all the cases. This shows how frequent renal complications are and how important it is to examine the urine. Outside of the gastrointestinal diseases, albuminuria was found most frequently in pneumonia and meningitis. These results did not confirm the common statements as to the frequency of renal complications in otitis media or eczema, in neither of which was albumin common. If an infant was edematous, we found that it was pretty safe to assume that the edema was not due to a nephritis, but to something else. We came to the conclusion that albumin was to be regarded merely as a manifestation of toxemia. In general, albuminuria showed a greater absorption of toxins and that only indicated a greater severity of the disease. There was no direct relation between the presence of albumin and casts in the urine and such symptoms as vomiting and restlessness. We had very few autopsies, but from what we had and from the examination of the urine afterward in the infants who recovered, we came to the conclusion that the condition in the kidneys very seldom went beyond an acute degenerative nephritis and that parenchymatous and interstitial changes were very unusual.

Dr. Frank S. Churchill, Chicago: Dr. Carr, in his paper, referred especially to the occurrence of renal complications in scarlatina, measles and whooping cough, but I think that we are not sufficiently alive to the frequency of these complications in other conditions, especially in acute gastrointestinal diseases. I refer particularly to the frequency of pyelitis in babies. Dr. Morse has referred to an otitis media as a cause of an obscure temperature in babies. Next to that I would put pyelitis, i. e., a temperature having a wide range from normal up to 104 or 105 F. within a few hours. If, after a careful examination, including an examination of the ear, no cause for this temperature is found, it behooves us to examine very carefully the urine, and we will often find the trouble there. In such examination it is too often the custom to make a chemical examination alone. That is not a safe thing to do. If one follows this up he will be surprised to note how often he will find from an examination of the sediment indications that will not be found from a chemical examination of the urine. I do not mean that the albumin will be constantly absent, but occasionally one will find a case in which he will detect things in the sediment indicative of serious trouble. Etiologically, one of the most common things discovered in these cases is a previous history of constipation. Then, on the examination of the urine, will be found this condition of the kidneys when nothing else can be found to account for the state of the child.

On the other hand, pyelitis may be merely a complication of some other acute condition. I have more often found it in cases of tonsillitis, and there it seems to be a manifestation of the general infection. In several such cases in which there had been also an otitis and I had found a pyelitis, after the throat cleared up and the otitis cleared up, there was an obstinate rise of temperature due to the kidneys. Too much care and attention can not be given to the examination of the urine of every child brought before us.

Dr. W. L. Carr, New York: I wish to emphasize the necessity for a routine examination in these cases, a class of cases that we see every day. On the way here I asked a prominent physician how often the physicians in his neighborhood examined the urine of the babies brought to them, and he said probably once in a hundred times. Certainly, since attention has been directed to this complication of gastrointestinal disorders and other infections, we are neglectful if we fail to make such an examination. We are unable to state how far the influence of these early infections on the kidney may extend. I have found in many of these cases traces of albumin and casts in patients having a family history of gout and nephritis. How progressive this may be, I can not say, but I think that in recognizing the first class of cases we may be able to prevent the second class and prevent renal disease in children having had gastroenteric disorders or having a family history of gout or rheumatism.

Nitrogen Excretion in Eclampsia.—Many of these patients are starving individuals, living on a low and nearly proteid-free diet, and much of the nitrogen found in the urine is not the result of faulty liver action, but is derived from combustion of the tissues of the body. In starving adults, in plethoric individuals and in the cyclic vomiting of children, this high percentage of ammonium nitrogen may be found in the urine wholly independently of toxemia. Cases of high ammonia percentages are reported in which a non-operative treatment was carried out, and the patients recovered. On the other hand, it has been necessary to terminate gestation in several instances because of threatening clinical symptoms when the nitrogen percentage was below ten.—H. M. Stone, in *Interstate Medical Journal.*

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[3] Pfaundler and Schlossmann, vii, 450.

[4] Hemenway: Arch. Pediat., 1909, xxvi, 223.

Nitrogen Excretion in Eclampsia.—Many of these patients are starving individuals, living on a low and nearly proteid-free diet, and much of the nitrogen found in the urine is not the result of faulty liver action, but is derived from combustion of the tissues of the body. In starving adults, in plethoric individuals and in the cyclic vomiting of children, this high percentage of ammonium nitrogen may be found in the urine wholly independently of toxemia. Cases of high ammonia percentages are reported in which a non-operative treatment was carried out, and the patients recovered. On the other hand, it has been necessary to terminate gestation in several instances because of threatening clinical symptoms when the nitrogen percentage was below ten.—H. M. Stone, in *Interstate Medical Journal.*

POST HOC, NON ERGO PROPTER HOC

CASES IN CHILDREN ILLUSTRATING CONDITIONS MISTAKENLY ATTRIBUTED TO INJURIES *

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The cases I have to report do not bear on the symptomatology or treatment of any one disease, but are merely interesting examples of the ease with which symptoms, purely medical in nature, may take on a surgical aspect and may lead one readily to assume the etiologic relationship of trauma. In some of them a fatal ending could easily have drawn the physician into the unpleasantness of a witness in an inquest, or even in a suit for damages against some individual or corporation. They are renewed instances of the old proverb, in which I have inserted the negative, "Post hoc, non ergo propter hoc." Some of them are warnings, too, against the vice of asking leading questions, and show how careful a physician should be to preserve his judgment unbiased.

The following case illustrates the possibility of confounding cerebrospinal fever and trauma:

Case 1.—*History.*—R. J., aged 4, was brought by the police to the Children's Ward, Hospital of the University of Pennsylvania, March 12, 1907. The history given was that, March 10, as the mother and child were about to step on the platform of a trolley car, the car had started and in some way had thrown them to the ground. There was apparently no immediate bad result. On the following day, the 11th, both were attacked by vomiting. The mother passed quickly into coma and died on the 12th, the child being admitted to the hospital a few hours later. The opinion of all those acquainted with the circumstances appeared to be unanimous that the condition of both mother and child was the result of injury. This was certainly, at least, the lay belief. So decided was this that postmortem examination of the mother was ordered by the coroner, but nothing was found beyond slight congestion of the cerebral meninges.

Examination.—On admission the child appeared extremely ill; the pulse was rapid and feeble; the skin cold and pallid; the eyes sunken; there was great restlesness; the neck was slightly rigid and was somewhat tender on being moved. In view of the history given, a careful examination was made for injury, but none was discovered. Heart, lungs, abdominal viscera and eyes appeared normal. The child was unconscious and very weak.

Course of Disease.—Vigorous stimulation was required; this was followed by improvement, but without return of consciousness. In a few hours obstinate vomiting began. Not to prolong the story, I may say that the patient remained extremely ill and the diagnosis was at first most uncertain, until an examination of the blood showed a leucocytosis of 24,200, and finally typical symptoms of cerebrospinal fever developed. After a long illness she made a complete recovery.

Comment.—One can see how readily a mistake in diagnosis could have been made in this case. Undoubtedly the association of the fall from the trolley-car and the development of the disease was purely a coincidence. Had the attack commenced slightly earlier, however, the possibility of the influence of trauma would have been even more marked than it was. The autopsy on the mother showed merely the congestion which is characteristic of the malignant cases of cerebrospinal fever. The fact that both mother and daughter were affected indicated strongly at first the possibility of accident. On the other hand, it seemed unlikely that both of them should have suffered from the result of the injury in much the same way twenty-four hours later.

The following case illustrates an apparently close connection between trauma and a convulsive condition. The association even yet is not absolutely clear, and I believe that in reality there was none.

Case 2.—*History.*—Jean J., colored, aged 10, brought to the Hospital of the University of Pennsylvania on Nov. 6, 1908, was entered in the surgical ward. This history was given: The boy had been in a fight with a much older child on the day before, on the way home from school, and was knocked down and kicked in the abdomen and perhaps elsewhere. He was able, however, to reach home, and said nothing at the time about the injury. Later in the afternoon he walked to the place where his father was working, several squares away, and while walking home together the father noticed that the boy lagged behind. He ate little at supper, was restless during the night, and on the next morning, the 6th, was found unconscious. There appeared to be some tenseness of the abdomen on the right side, and the attending physician ordered an ice-bag. The boy's pulse grew weaker, unconsciousness persisted, and he was brought to the hospital in the afternoon.

Examination.—The surgeons on the evening of the 6th found the child in a stuporous condition, and lying on his side with his legs drawn up. Pressure on any part of the body caused pain; the pupils were normal and reacted to light; the heart sounds were weak; the abdomen sometimes soft, sometimes rigid; ankle clonus was present, most marked on the right, and there was some stiffness of the neck. There was no evidence of paralysis, the urine was normal; leucocytosis 27,000.

Course of Disease.—The surgeons were unable to find any positive evidence of injury and were inclined to the diagnosis of cerebrospinal meningitis, and transferred the patient to the Children's Medical Ward, under my care, on the morning of the 7th. There was still entire unconsciousness, and there had now developed a decided hemiplegia, involving the right side of the face, right arm, and, to a less extent, the right leg. Sensation of the face and arm appeared to be lost. While under examination the patient had a general convulsion. Finding him in this condition, and it being the hour for my lecture, I exhibited him to the students. Without being able to make any positive diagnosis I said that although the leucocytosis pointed to an inflammatory condition, possibly cerebrospinal fever, the fact that a hemiplegia had occurred so soon after the onset was much against this diagnosis since paralysis is nearly always a late symptom or a sequel in this disease. I mentioned, too, the possibility of the boy having received a kick on the head as well as on the abdomen, and of the condition being perhaps one of ingravescent cerebral hemorrhage, in which there had occurred a very slow and rather late effusion of blood. On the following morning we were surprised to find the patient entirely conscious, without pain, no longer with any rigidity of the neck, and able to move his right arm and leg. The leucocyte count had fallen to 11,400. Examination of the eyegrounds revealed nothing abnormal. Showing the difficulty of diagnosis, he was kindly examined for me on the 8th, separately, by three members of the neurologic staff of the hospital, and three different diagnoses were made: first, meningoencephalitis; second, slight cerebral hemorrhage; third, exhaustion-paralysis. By November 9 all symptoms had disappeared, except that the child did not seem very bright, which was probably his natural condition.

Comment.—As to the real nature of this case I am still in doubt. It does not seem to me at all likely that the injury had any etiologic connection with it. Fights are common among boys and the negro's head is proverbially hard. There was no bruise or cut to be discovered on the body. I can not see any sufficient reason for the development of an exhaustion-paralysis. The recovery was remarkably prompt and complete for meningoencephalitis; and hemorrhage, even though minute, would hardly have been followed by such rapid improvement.

I may say that, of course, the finding of hemiplegia on the 7th of the month brought up the question of operative interference, to which the attending physician was much opposed, lest it should bring us all into the unpleasantness of a coroner's inquest in case of death and the existence of trauma having been proven. The parents, too, were opposed to the operation even had we felt that the symptoms warranted it.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

In many respects the following case is strongly like the last, showing the association of a disordered cerebral condition with a supposed injury:

CASE 3.—*History.*—Joseph S., Italian, aged 5, was brought to the Children's Medical Ward of the Hospital of the University of Pennsylvania, Dec. 16, 1908. I happened to be present at the time and was able to interview his mother and obtained the following history: About 10 o'clock that morning he was led into the house by another boy who said that the child had been hit by a street car. At that hour he could not talk, but could walk; seemed bewildered, and vomited several times. He was immediately brought to the hospital.

Course of Disease.—He was only semiconscious on arrival, and developed a convulsion in the right foot, leg, arm and right side of the face while being helped into the ward. The convulsion was severe, lasting ten or fifteen minutes and requiring an anesthetic. He had four convulsions later in the day, and finally was relieved by chloroform inhalations and by morphin. By late afternoon he was conscious and rational. He was slightly dull, showed some loss of power on the right side and a slight ataxia in the hand. Two days later, on the 18th, motion appeared unaffected, except for a possible diminution of grip in the right hand and some uncertainty in reaching for a cent when the eyes were closed. The leucocyte count was 18,000. On the 19th his condition was entirely normal and the leucocyte count was 10,000.

Comment.—The resemblance of this case to the last is striking and the diagnosis equally uncertain. The loss of power seemed perhaps no greater than one could expect after the severity of the unilateral convulsive condition. I may say that further inquiry, including questioning of the boy who brought the child to his home, failed to confirm any history of accident. It is apparent how easily the case could have involved the trolley company in difficulties and the hospital physician in unpleasantness had the child died.

As the subject is such an important one, I may give briefly the outline of a case which I published some years ago. It illustrates the danger of drawing conclusions based on leading questions, and shows how readily trauma of some kind may be assumed when no such thing has existed:

CASE 4.—*History.*—William B., 21 months old, was brought to the Children's Out-Patient Department of the Hospital of the University of Pennsylvania, Nov. 8, 1895, suffering from a cough of a very stenotic nature. There was some dyspnea, which was worse at night. Examination of the throat and larynx was negative.

Course of Disease.—A diagnosis of stenosis of the trachea of unknown origin was made, and under my advice the patient was entered at the Children's Hospital of Philadelphia. Four days later I was asked to attend a tracheotomy on him. I found that the resident physician, who was a very bright man but whose judgment was not always equal to his brightness, had by questioning elicited from the mother a history of the child choking over a piece of celery. This was said to have occurred four weeks previously. She had made an effort to get the celery from his mouth but had failed, and the cough and dyspnea were said to have dated from this time. Tracheotomy was to be done in order to prevent suffocation, should the cough drive the celery upward and close the rima *glottidis*. Forceps were passed downward through the tracheotomy wound but no foreign body could be discovered. Bronchopneumonia developed and the child died a few days later.

Autopsy.—This showed a retrosophageal abscess, with erosion of the first dorsal vertebra, the abscess having undoubtedly pressed against the trachea and the left bronchus. No evidence of any foreign body could be discovered. Further questioning of the parents elicited a vague history of stiffness of the neck and awkwardness of carriage existing for two months previous to the onset of the cough and dyspnea. The parents seemed, however, extremely susceptible to suggestion, and it is perfectly possible that leading questions had developed an erroneous history in this respect just as they had done in the matter of the celery.

Would time permit I might go on with illustrative cases. I have seen, for instance, appendicitis attributed to the kick of another child, and pain in the side supposed to be due to falling from a second-story window, but really depending on a tuberculosis of the pleura and probably of the peritoneum. But perhaps one of the most misleading of diseases is infantile scurvy. Repeatedly I have seen the sudden development of pain in the limbs in this disease attributed to trauma. In one case, observed several years ago, the mother felt certain that the nurse must have dropped the child. The later development of other symptoms, especially of hematuria, and the rapid improvement following the use of orange-juice settled the matter. In the autumn of last year I saw the following two interesting cases, which, curiously enough, came under my observation within four days of each other.

CASE 5.—Katherine C., 14 months old, was brought to my office on November 5, 1908. She had been entirely well until four weeks previously. She was in bed early in the morning, sitting between her mother and father and playing happily. Her father, who was still asleep, threw out his arm unconsciously and struck the child with such force and in such a manner that she was partially turned about and fell against her mother, the back of her head striking the mother's chin. The child cried vigorously and a few hours later the head exhibited contusions caused by the accident. Later in the morning she seemed unable to crawl, and before the day was over was unable to walk, the left ankle being tender when handled. The child rapidly grew worse and for two weeks had scarcely moved the leg at all, while passive movement was extremely painful. The week before her visit to me the arm had been painful also, and for the last five days the child was only comfortable when absolutely still.

On hearing the first part of the history the connection of the condition with trauma seemed very probable. Indeed, the parents were thoroughly convinced of it and a physician might readily have added to the father's self-reproach by the hasty expression of an opinion. It seemed odd to me, however, that the ankle could have been injured in such an accident as was described to me, and that the arm should not have suffered until two weeks later was still more curious. By the time the mother had reached this stage of the history the true nature of the case had become probable, and the finding of swollen, purplish-red gums and of red blood cells in the urine made it certain that we were dealing with infantile scurvy, and that the accident was merely a coincidence.

The other case of scurvy has a somewhat similar history, although the diagnosis was less easy:

CASE 6.—*History.*—Cyrena S., aged 7 months, was in fair health when, some weeks before I saw her, on Nov. 1, 1908, an older child of 4 years fell on the infant's leg. This appeared to give pain, not only at the time but on passive movements for some days afterward. Pain then disappeared, but within the last few days had returned, although it seemed to be intermittent.

Examination.—This showed that both legs were tender on passive movement. This in itself was suspicious, as only one leg had appeared to be injured by the accident. There was no scorbutic involvement of the gums; yet as this often fails to develop when the teeth have not erupted, and as the infant was markedly rachitic, I believed that I was dealing with scurvy, and that the suuposed injury was merely a coincidence.

Course of Disease.—The therapeutic test of orange-juice was made and the mother later reported with delight that in two days the pain had nearly disappeared, and soon thereafter entirely and permanently so.

As I have said, the list of such cases might readily be increased, but I have thought that these few might be of interest as striking examples of the caution which we must use in making a diagnosis of any supposed injury, particularly in children who are too young, or who are unable for other reasons, to give any satisfactory account of their condition.

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ABSTRACT OF DISCUSSION

Dr. P. J. Eaton, Pittsburg: Last year I saw in consultation three cases that had been diagnosed as traumatism, and each was a case of scurvy. If we will bear in mind that infantile scurvy is a cause of many of these apparent injuries, we shall clear up many cases much more rapidly.

Dr. Theodore Le Boutiller, Philadelphia: I had a patient who for two months had been under treatment in one of the hospitals of Philadelphia for caries of the spine, said to be due to a fall. When seen by me there was no increase in the reflexes, but there was complete paralysis of the legs. We found on examination that there was no loss of power in the legs but that the child was unable to stand on account of the pain; the gums were spongy and red. Being put on orange juice and beef juice, the child recovered within two weeks.

Dr. George F. Little, Brooklyn: It is well to bear in mind that when there is scurvy there may be separation of the epiphyses and symptoms of fracture. Recently I had a case in which there was a swelling at the lower end of the femur; a grating sensation could be elicited on movement. There were no clear signs of scorbutus. *X*-ray pictures were taken, but the plates showed nothing in either the front or lateral views. Within a few days redness and swelling of the gums was noticed. I then put the child on orange juice in addition to diet and in a few weeks it was in good condition. There was undoubtedly a separation of the epiphyses, caused by the scurvy, too slight to be apparent in the radiograph.

Dr. J. P. Griffith, Philadelphia: We are all waking up to the fact that scurvy is liable to simulate trauma. The other cases I reported are, to me, at least, more strange, and two of them are still far from clear. One of these children was examined by three different neurologists and I received three different diagnoses. Clearly what the actual condition was we do not know.

PROBABLE SPINAL CORD LESION FOLLOWING THE PASTEUR TREATMENT

REPORT OF TWO CASES [*]

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MINNEAPOLIS

The two cases herein reported were referred from the Pasteur Institute of the State Board of Health in Minnesota.

Case 1.—*History.*—The patient, E. N., was a man aged 38, married, carpenter, referred by Dr. J. P. Barber. Father died at 65 of grip and heart trouble; mother living at 70 and well. There were seven brothers and three sisters. One brother died in infancy and one of mountain fever. One sister died of some trouble incident to labor. One brother is insane and one sister is very nervous. The patient is married but has no children. The family history is negative except as above. The patient's general health had been good, and he insisted that he had never been seriously ill. He admitted an attack of gonorrhea seventeen years before the present illness; he denies syphilis. He used no liquor and had never been seriously injured.

Present Illness.—On March 26, 1908, he was bitten on the thumb by a small pet dog. The wound was small and bled slightly. The dog was acting peculiarly at the time, and subsequently bit another dog which afterward became rabid. On March 28 the patient went to the Pasteur Institute of the State Board of Health Laboratory, where treatment was begun. The wound was cauterized at that time and subsequently healed nicely. Daily treatments were given. The patient said that he had dreaded the injection a great deal, and had been much more nervous than usual since it was begun. On the morning of April 14 he noticed that the entire left leg felt numb. He did not feel very well during the day; the left leg continued numb, and the right felt tired when he walked. He did not sleep well that night on account of pains over his entire body and especially in his chest. In the evening he consulted Dr. Barber. His temperature was then 100 and his pulse 88. He had been able to work during the day. On the 15th he could not work. The left leg was still numb and he gradually lost power in the right but had no feeling of numbness there. He slept better the night of the 15th but only after taking a sleeping-powder. He still complained of the pain in his chest, which, he said, seemed like a worm boring its way through.

First Examination.—On April 16 the patient came to the office and was examined. He was chilly and said that when at home he sat most of the time by the stove. He was constipated, though he had taken a laxative. He had a little headache. There was some stiffness in the muscles of the right leg, but none elsewhere. In standing, he was stooped forward with a rather wide base. He complained of numbness in the penis and scrotum, and of a "heavy" pain in the right lumbar region. He had no trouble in urination. He was moderately well developed and well nourished. Pulse was 72, full and regular; temperature, 98 3/5; arteries considerably thickened. Heart and lung examination was entirely negative. The pupils were equal and reacted normally to light and distance. The ocular movements were normal; vision, hearing, taste, articulation and swallowing all normal. The left patellar reflex was increased. There was no ankle clonus and no plantar reflex on that side. The right knee-jerk was increased more than the left, and there was ankle clonus and a normal plantar reflex on this side. The reflexes of the arm were practically normal. Pain and temperature sense was lost on the left side of the body from the seventh dorsal nerve downward, including penis and scrotum and perineum. Tactile sense was retained in this area but was diminished in intensity. There was distinct tenderness in the neighborhood of the spinal process of the seventh dorsal nerve. There was also complete loss of power in the right leg but no disturbance of sensibility for pain, temperature or touch.

Second Examination.—The patient was seen again on May 15. He said that after the last examination he had been in bed with complete loss of power in the right leg for two weeks. As near as could be learned, there had been no loss of power in the left leg. His pain had largely disappeared in three days after going to bed, but at times, if he became cold, he would have an aching pain under the arms and in the dorsal region. On first going to bed he had been given a laxative and stated that after three or four days he had no control at all of his bowel movements, and had some disturbance in urination. At the time of his second examination he had been able to get about for a little time and was doing light work. He said that he felt fairly well, but complained of loss of feeling in the left leg. He said that the seventh dorsal spine was still tender. When examined, there was found to be partial loss of sensibility for temperature and pain on the left side below the seventh dorsal nerve, but much less marked than on the previous examination. Tactile sense was practically normal throughout the body. Muscular power was practically normal in the left leg, and very much improved in the right. Both patellar reflexes continued increased. There was no ankle clonus and no Babinski. The left plantar reflex was somewhat diminished. Sensation was entirely normal in the face and arms. The scrotal reflex was present on both sides.

Subsequent to this date there is no definite record of the patient's condition. He continued to improve and worked for some time, but there is a report of uncertain value that he had a subsequent relapse, the nature of which is not known.

Case 2.—*History.*—The patient was a man aged 28, single, traveling salesman, referred by Dr. J. A. Crosby. His father was living at about 50; temperate and well; mother living at 45; well. One sister died at 6 of "spasms," which she had had all her life. One brother and one sister were living and well. The maternal grandmother died of tuberculosis. Aside from the above, there is no nervous or mental trouble, or tuberculosis anywhere in the family. The patient's general health had been good. At 1 year of age had a very severe illness of uncertain character and suffered infection following vaccination at 15; no other serious illness and no injury. He drank moderately. He had had gonorrhea seven years previously; was fully cured; he denied syphilis. He had had psoriasis since 6 years of age. His appetite was generally very good. He had rather a nervous temperament, and had been troubled somewhat with insomnia for six months on account of engaging in a line of work which had not been very profitable.

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[*] Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Present Illness.—On June 26, 1908, the patient was bitten in the arm and leg by a large Newfoundland dog, receiving some badly lacerated wounds. The wounds were cauterized immediately with carbolic acid, washed with bichlorid solution and dressed. The patient returned at once to Minneapolis. The dog was killed one day later, and there is no positive evidence as to whether it was rabid. It had not previously been known to be vicious. Three days after the patient was bitten, treatment was begun at the Pasteur Institute at the State Board of Health Laboratory, and was continued every day thereafter. The wounds healed well, and, when seen on July 16, there was only a small crust covering the wound on the leg. The patient did not think that he was specially nervous during treatment. After the sixth injection, he had considerable swelling and edema on the abdomen, which was painful and tender. About July 8 he began to feel "flashes of numbness" starting in his heels and traveling over the entire body, lasting but a moment. The next morning, on walking, he found himself tender to the touch all over the trunk. The flashes continued. July 10 he felt about the same. July 11 the tenderness continued, and he also had a sense of prickling in his chest and abdomen; he was more nervous on this day than previously; that night he sweated freely. On July 12 he began to feel pains in his abdomen, irrespective of the areas of induration, and also over the kidneys. The next morning, Monday, July 13, he felt very bad and took no treatment that day. In the evening his pain seemed concentrated in the bladder region. He passed urine twice that evening, and once at 2 a. m. on Tuesday. All day Tuesday he felt a sense of weakness in the abdominal muscles in trying to pass urine, which he was compelled to do frequently. Toward evening he had great trouble in getting the flow started; used a hot compress externally and turpentine internally. He also had a sensation of weakness in the abdominal muscles in trying to have a bowel movement. On account of the pain, he slept very little either Monday or Tuesday night. Tuesday morning there was some numbness to touch over the abdomen, and on Wednesday the numbness had extended half way down the thighs. Wednesday evening he noticed that there was a diminution of the sensibility for touch and pain to a point below the knees. He felt no loss of power in the legs or arms; no double vision. Hearing was normal. He had considerable perspiration. On the 10th and 11th he had severe pains in the occipital region. His temperature is said to have been slightly above normal on the 14th. He was seen July 16.

Examination.—The patient was a fairly well-developed and well-nourished man; height, 5 feet 11 inches; weight, 168 pounds; temperature, 97 2/5; pulse, 93. His head and face were well formed. His eyes were bluish gray and vision was good. Ears were normal in appearance and his hearing was good. There were well-marked lesions of psoriasis at various points over the body. The examination of the heart and lungs was entirely negative except for a blowing mitral systolic sound. Both radial arteries were considerably thickened. The temporals were normal. The tongue was moist, but considerably coated. Aside from this, the gastro-intestinal apparatus was normal. The patient was extremely nervous, and trembled and perspired excessively throughout the course of the examination. He complained of some pain still in the occipital region and of slight bladder pain; said that he had a "goose-pimple" feeling over both sides, occurring alternately in the chest, abdomen, and legs, and that his abdomen felt as if it were full and had a lump of dough in it. He stated that he was dizzy during the last days of treatment, but had not been so since. The expression of his eyes, and the movement of the lids and eyeballs were normal. There was no arcus senilis, ptosis, lagophthalmos, nystagmus, strabismus or double vision. The pupils were equal and reacted equally, readily, and together for light and distance. Taste and smell were normal. Sensibility for touch, pain, pressure, heat and cold was much dulled from the seventh rib to the pubes. At other points it appeared normal. There was a well-marked *tache cérébrale.* The patellar and Achilles reflexes and the deep reflexes of the arm were much increased. Ankle clonus was very slight, if present at all. Gait and station were normal. Abdominal reflexes were very faint; cremasteric considerably impaired; facial reflexes increased; muscular power in the hands, feet, arms and legs normal. There was considerable loss of power in the abdominal muscles; no fibrillary twitching; marked tremor in practically every part of the body when brought into use. Tongue was protruded straight, but very tremulous. There were no contractions and no convulsions. Goose-pimples appeared promptly everywhere on the patient's skin when he was touched in any way. There was no special irritability in muscles or nerves; no speech disturbances. There was no sensory disturbances in the thighs or legs at the time of the examination, though the patient had noticed these things subjectively, and said that he had demonstrated them objectively. He had fair control of his bladder and bowels.

Course of Disease.—July 17: The patient was evidently much less worried this day than the day before. Tremor was much less marked. The deep reflexes were only moderately increased and there was no ankle clonus. Both the abdominal and cremasteric reflexes were more pronounced. The sensory disturbances were about the same. Temperature was 98 3/10; pulse, 87.

July 25, 1908: In three days after the last note the patient was able to pass water normally. The goose-pimples and the "flashes" also disappeared at about the same time. The patient was not nervous now, or at least not more than was usual with him. He slept well. Wounds were all healed. His deep and superficial reflexes were all absolutely normal, but the left pupil was about one-quarter larger than the right. There was still slight sensory disturbance over the abdomen and lower chest; not other abnormality found in a careful examination. The patient said that he felt perfectly well.

About one month after the above date this man was seen on the street. His pupils were then equal and he said that he was perfectly well in every way.

When Patient 1 presented himself I was at a loss to interpret the condition and was inclined to consider it something altogether independent of the rabies or of the serum treatment. Shortly afterward, however, Eduard Müller's article[1] describing an identical case and other literature on the subject has been unearthed. Up to the present, however, there has been no record of any case from the United States, though there are over twenty Pasteur institutes in this country.

As early as 1891 cases similar to the above were reported from French sources, and in 1905 Remlinger,[2] the head of the Constantinople Institute for Rabies, was able, by searching the literature and by questioning different institutes, to gather reports of forty cases in which well-marked symptoms, similar to the above, were observed. Müller has found references to sixteen more in addition to his own case, and these, with Pampoukis'[3] three and the two here recorded, make a total of sixty-two cases.

Letters were sent to thirteen Pasteur institutes in the United States asking for information concerning similar cases, but, though nine responded, none reported any cases. Seven contented themselves with merely reporting the absence of cases; two, however, insisted that when such conditions were present, they were the result of the use of improperly prepared serum, and not a necessary result of the treatment. The director of one institute had seen no cases such as described, but had had a number of patients who complained of "nervous conditions."

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[1] Müller, E.: Deutsch. Ztschr. f. Nervenh., April, 1908, xliii, Nos. 3 and 4.

[2] Remlinger: Ann. de l'Inst. Pasteur, 1905, p. 625.

[3] Pampoukis: Deutsch. med. Wchnschr., Nov. 28, 1908, p. 2076.

That a condition similar to that mentioned does occur in connection with the Pasteur treatment of rabies, as ordinarily administered, however, can scarcely be doubted. Several foreign authors speak of it as a well-established condition to be expected in a certain proportion of cases, and there is no reason why it should not appear in this country as well as abroad. The appearance of certain definite symptoms, coming on at a certain period in treatment, running an almost uniform course, and ending in almost every case in recovery in spite of the apparent seriousness of the condition, and the failure to identify these symptoms with any other known form of nervous trouble, makes it almost certain that we are dealing with a definite pathologic condition associated, in some way, with antirabic treatment. It has been urged that the symptoms are merely the manifestations of a modified form of rabies, but the lack of similarity between the symptoms of rabies and those under discussion, and the great suffering and high mortality in rabies, render this very unlikely; and, besides, the condition has been found in those who, having taken the antirabic protective inoculation, have been proved later never to have been infected with rabies. Moreover, the condition has been found repeatedly in individuals when there was no evidence of general infection following the inoculation, and when there was no reason to suspect the presence of syphilis. The exact nature of the pathogenesis of the condition up to the present is undetermined. A fatal result is rare, only two deaths occurring in the sixty-two cases given. But one autopsy has been performed, so far as can be learned, and, even in this instance, the results were rendered uncertain by the presence of a secondary infection of a different type.

About the only thing certain in the etiology of the condition is that it follows the use of the antirabic serum and occurs independently of rabic or ordinary septic infection. That the injected material contains a bound *Wuttoxin* which is the cause of the condition, is rather widely believed, but this can not be absolutely proved.

The symptoms, as they present themselves, especially in the severe cases, are not unlike those of Landry's paralysis, or severe multiple neuritis, and it is worthy of note that the initial symptoms appear in that region of the body where the inoculation is given, and later spread to other parts, indicating that, as is true with the rabic infection, the poisonous material follows along the nerve trunks until it reaches the spinal cord, where a myelitis is probably set up. In the very favorable prognosis, however, the cases are very dissimilar to Landry's paralysis.

Why the condition occurs relatively frequently at some institutes, and rarely or not at all at others, is without satisfactory explanation. Puscarin and Lebell[4] report seven cases. Gonzales[4] says that the cases occur frequently, while some institutes, especially those of this country, report none at all. At the Pasteur Institute of the Minnesota State Board of Health there have been 360 patients treated up to date. Out of this number, in addition to the two cases here reported, three others, according to reports sent to the director of the institute, showed symptoms very similar, though in milder form. Among the nine institutes that responded to inquries four reported a total of 7,080 patients treated, with no cases of the sort here described.

Though desiring to make full acknowledgment to the courteous responses received to my inquiries, I can not but believe that one factor, at least, in the scarcity of cases in some institutes is due to a failure to carefully follow up and study the patients subsequent to their treatment.

NOTE.—Since this article was prepared, I have learned that a patient with symptoms very much like those reported above was some time ago under the care of Dr. W. S. Thayer, of Baltimore, who very kindly sent me the following notes of the case, dictated from memory:

CASE 3.—The patient had just left the institute and was returning from dinner when she felt nauseated. The next day had a little fever and within, I think, forty-eight hours of the first symptom, became completely paraplegic below a point in the upper dorsal region. There was almost absolute loss of sensation, increased reflexes with dorsal flexion of the toes on plantar stimulation and ankle clonus; incontinence of urine and feces. The outlook seemed to me as bad as could be. In a week or ten days the patient began gradually to improve and eventually recovered completely. . . . The patient, who was a woman of about 40 years of age, has remained perfectly well, and I have heard from her within three or four months.

Dr. Thayer also informs me that a number of similar cases have occurred in the Pasteur Institute at which the above patient received treatment.

In the April, 1909, number of the *Archives of Diagnosis*, ii, No. 2, I have found a second case reprinted by Dr. J. R. Fabricius, which is evidently of the same sort as those described. I give herewith a brief summary:

CASE 4.—The patient, 62 years old, had had good general health. On May 31, 1898, he was bitten by a five-months-old bull terrier. The animal, which had been sick for half a day, was eventually siezed with convulsions, and directly after biting the patient it was shot. The patient's wound was cauterized with pure phenol and treatment was later begun at the health department. After the second injection the patient complained of pain in the abdomen at the site of the injection, of general weakness, and of restlessness at night. Eleven days after the first injection, and sixteen days after the bite, the patient complained, among other things, of numbness of the fingers and pain and weakness in the legs, along with considerable incoordination on walking. Later there was marked prostration with a flaccid paralysis of the upper and lower extremities. Reflexes were practically abolished. There was no disturbance of the sphincters. The paralysis extended rapidly, and death took place twelve days after the first injection of the serum. An autopsy was performed by Dr. Van Giesen, but unfortunately the body had been embalmed, and the examination was more or less unsatisfactory. So far as anything positive could be stated, the result of the examination was wholly negative, and it was specially stated that Negri bodies could not be found. Emulsions of such portions of the brain as had escaped injection were injected into guinea-pigs, which remained healthy for four months. An examination of the brain of the dog failed to show Negri bodies, and emulsions made from the brain tissues of the animal also failed to produce any symptoms when injected into guinea-pigs. This case, therefore, among others, seems to point conclusively to the fact that the condition here reported is at least independent of rabic infection produced by bite, and that the pathologic condition is due to something introduced at the time the injections are given. The two together constitute conclusive evidence that the condition described in this paper is not confined to the patients from one Pasteur institute in the United States.

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[4] Quoted from Eduard Müller: Deutsch. Ztschr. f. Nervenh., April, 1908, xliii, Nos. 3 and 4.

ABSTRACT OF DISCUSSION

Dr. Arthur S. Hamilton, Minneapolis: In connection with these interesting cases of Dr. Jones, I wish to refer to a patient of whom Dr. J. Clarke Stewart of Minneapolis told me recently. The case may have no essential relation to these just reported, but there is at least an apparent resemblance. The patient, a middle-aged man, was being treated for a condition of multiple sarcomata. He had not done very well under the treatment and the injections were discontinued for a period of two weeks. Shortly after their renewal the man developed symptoms of myelitis in the region of the sixth thoracic segment and died within a period of ten days from the gradual extension of the process upward. Dr. Stewart told me that he had written to Dr. Coley who reported that he had never heard of a similar condition in connection with the use of the fluid in any other patient. Whether the case is one similar in origin to those described or whether it is an ordinary myelitis, probably of septic origin, or possibly even the extension of the sarcomatous process, it would be difficult to say.

THE LOWERING OF BLOOD-PRESSURE BY THE NITRITE GROUP *

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Since Brunton's successful employment of amyl nitrite in a case of angina pectoris, some thirty years ago, the nitrite group has obtained a fixed place in therapeutics. The members of the group stand out preeminently as drugs from which a definite result may be obtained, and which are the only available therapeutic agents in the treatment of certain conditions. There exists, however, a certain lack of detailed knowledge concerning the pharmacologic relationship between the different members of the series, and among some at least a belief that a complete lack of action often follows their administration. For these reasons it seemed to us desirable to make a comparative study of the group.

We have selected as typical members those most commonly used, amyl nitrite, sodium nitrite, nitroglycerin and erythrol tetranitrate. The work to be reported was done in part on animals, in part on normal individuals and hospital patients. In the latter the blood-pressure determinations were made by means of the Janeway sphygmomanometer. Since the completion of our work a paper has been published by Matthew[1] in England, covering a certain amount of the ground gone over by us, with very similar results.

We began by determining the rapidity, duration and degree of action on a number of normal individuals, with the idea of comparing these with determinations made on patients with abnormally high blood-pressures. To obtain uniformity of results, amyl nitrite was given in dosage of 3 minims by inhalation, nitroglycerin 1½ minims of a 1 per cent. solution, sodium nitrite 1 grain in solution, and erythrol tetranitrate 1½ grains in chocolate tablets. The latter three were given by the stomach.

Our results briefly tabulated on the basis of averages are given in Table 1.

In comparing these figures it is seen that 3 minims amyl nitrite, 1/60 gr. nitroglycerin, 1 gr. sodium nitrite and 1½ gr. erythrol tetranitrate are practically equal as far as strength of action on normal individuals is concerned. With such dosage a fall in systolic pressure of 14 to 16 mm. Hg. is obtained, or a percentage fall of 11 to 14 per cent. The chief difference lies in the duration of action, which averages seven minutes with amyl nitrite and about three hours with erythrol tetranitrate.

TABLE 1.—Average Blood-Pressure Results from Administration of Nitroglycerin, Sodium Nitrite, and Erythrol Tetranitrate to Normal Persons

	Time of			Maximum extent of action.	
Drug.	Beginning action. min.	Maximum effect. min.	Duration of action. min.	mm. Hg.	%
Amyl nitrite, 3 minims..	1	3	7	15	11
Nitroglycerin, 1½ minims, 1 per cent. sol........	2	8	30	15	11
Sodium nitrite, 1 gr.....	10	25	60	14	13
Erythrol tetranitrate, ½ gr.	15	32	120-240	16	14

Another point brought out clearly is the quickness of beginning action and of the return to the normal level after nitroglycerin. The action begins within two minutes and is over within thirty minutes, when this drug is given by the stomach. There would seem to be no reason, then, for giving nitroglycerin by subcutaneous injection with the idea of getting the quickest results.

In considering the individual variations which go to make up these averages it is found that in general the higher the beginning pressure the greater is the actual fall. The percentage fall, however, remains fairly constant. This same result is seen in animal experiments when the drugs are injected intravenously. The actual fall in pressure varies considerably, while the percentage fall shows remarkable uniformity.

Increase in dosage produces an increase in degree and duration of action which is, as a rule, fairly proportional to the dose. With amyl nitrite we have not infrequently seen a rise instead of a fall of pressure. This occurs if the dose is small, and is to be explained by a greater action of the heart and probably some constriction of the splanchnic vessels. It means a marked capability of the vascular system to retain its equilibrium.

One common symptom in normal individuals is headache. It may occur after each member of the group, but is especially severe after erythrol tetranitrate. Here it may last for many hours after the pressure has returned to its original level.

In studying the effects on abnormally high pressures, we have taken hospital patients with pressures varying from 172 to 265 mm. Hg. All had a perceptible degree of arterial thickening; in some the sclerosis was very marked. Two of the patients suffered from locomotor ataxia; a number had chronic nephritis; one a marked aortic regurgitation; another chronic lead-poisoning. As a rule each patient was given each of the drugs studied. Taking these cases as a group and calculating the average of the results, the figures shown in Table 2 are obtained.

TABLE 2.—Average Blood-Pressure Results from Administration of Nitroglycerin, Sodium Nitrite and Erythrol Tetranitrate to Patients with Arteriosclerosis

	Time of			Maximum extent of action.	
Drug.	Beginning action. min.	Maximum effect. min.	Duration of action. min.	mm. Hg.	%
Nitroglycerin 1/30 gr....	2	8	35	32	17
Sodium nitrite 2 gr.....	15	45	120	53	25
Erythrol tetranitrate 2 gr.	30	60	180	60	30

Considering the individual variations which go to make up these averages, our figures compare fairly well with those of Matthew. The nitroglycerin results are practically identical. With the sodium nitrite, we have found the fall in pressure slower in coming on, the maximum fall less quickly reached and the extent of fall greater than his figures show. The same applies to our results with erythrol tetranitrate, although here the dose was considerably larger than the one employed by him.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

[1] Matthew: Quart. Jour. Med., 1909, p. 261.

Comparing these results with the ones obtained by us on normal individuals, no very great differences are seen as far as the time element is concerned. The action of nitroglycerin is practically the same in both series. The other two begin to act a little less quickly, the maximum effect comes a little later, and the duration of action is slightly longer. This is to be ascribed undoubtedly to delayed absorption and excretion. The extent of action shows greater variation, when compared to that in normal individuals, than the difference in dosage would seem to warrant. If the percentage fall is taken, however—and this is a much better index than the fall in millimeters of mercury—the extent of action is seen to be practically the same in the two series. We have noticed also that headache is rarely induced by these drugs if the beginning pressure is abnormally high. In fact, an existing headache not infrequently disappears as the pressure falls.

We have not used amyl nitrite in our cases. It has been tested quite carefully by Rzentkowski[2] in a number of cases of arteriosclerosis. He finds in such cases that an effect of greater extent and longer duration is obtained than in normal individuals.

In a few cases we have given unusually large doses. As has been pointed out by Brunton, this may be done without any especial danger. One patient was given ⅛ gr. nitroglycerin. The pressure dropped from 210 mm. to 60 mm. in ten minutes, a fall of 150 mm. Hg., or 71 per cent. Four minutes later it was up to 168 mm., and within fifty minutes after the glonoin was taken the pressure was back to its original point. The only symptom was a faintness of a few minutes' duration. To another patient 6 gr. sodium nitrite were given. The pressure fell from 210 to 100 mm. Hg., a fall of 52 per cent. These and other determinations made show that the fall in pressure is rather directly proportional to the dose taken.

In none of our cases was a lack of effect observed from any of the group used. We are aware that many failures to lower arterial tension with these drugs have been reported, but are inclined to believe that if active drugs are used refractory cases are somewhat exceptional. It is certain that arteriosclerosis of a high degree does not prevent the group from exercising its usual action, and, in fact, it seems conceivable that only in cases in which the splanchnic vessels are no longer capable of dilatation will a fall not occur.

That the flow of blood through the cerebral vessels is largely governed by the flow through the splanchnics is generally accepted by physiologists. So a splanchnic constriction means a greater amount of blood flowing through the brain, a splanchnic dilatation a lessened cerebral blood-supply. The nitrite group lowers blood-pressure chiefly through a splanchnic dilatation, and hence a lessening in the cerebral circulation should occur which would be in proportion to the fall in general arterial pressure. We have endeavored to prove this by animal experimentation, using as methods direct observation of the exposed brain, the rate of flow through the cerebral branch of the jugular vein, and measurements of changes in brain volume. Our results as yet have not been satisfactory enough to allow of a positive statement, but, as far as they go, they indicate that the brain circulation follows quite closely the general pressure changes as measured from the carotid artery. We have seen no particular differences with different nitrites in this connection, although when the pressure fall is very slight, especially with amyl nitrite, the cerebral flow may be increased.

A question of much practical importance is in regard to the best form in which nitrites should be given and whether they deteriorate in activity in keeping.

Amyl nitrite, as usually supplied in glass pearls, keeps well if not exposed to the light. The slight decomposition occurring, as evidenced by the change in color, makes practically no difference in activity. Tablets of nitroglycerin, containing 1/100 gr. each, may retain their activity for a year or more. On the other hand, it is a common experience that comparatively fresh tablets are often inert. This is to be explained, in part at least, by improper manufacture, chemical analysis having shown that the content of nitroglycerin may vary enormously in comparatively freshly made tablets. Owing to their uncertainty in dosage, therefore, it would seem advisable not to employ tablets, but to make use of solutions. A 1 per cent. solution keeps fairly well. If diluted, however, it may weaken markedly. This was shown quite clearly in one of our cases. A 1 per cent. solution was diluted to ten times its volume. Five c.c. of this diluted solution, containing 1/12 gr. nitroglycerin, produced a much less fall of pressure than half as much of the 1 per cent. solution from which it had been made two days before. The 1 per cent. solution of nitroglycerin, then, as represented by the pharmacopeial spirits, is the best form in which glonoin may be administered.

We have found also that solutions of sodium nitrite deteriorate quite rapidly. A solution should not be used which is over a week old.

Finally, with regard to erythrol tetranitrate, Matthew states that ordinary tablets are usually quite inert, but that the full activity may be retained if chocolate-coated tablets are used. We have employed such tablets and have found that even after keeping for one year they retain their full activity.

ABSTRACT OF DISCUSSION

Dr. Oliver T. Osborne, New Haven, Conn.: The testimony in this paper is exactly in line with what we have learned clinically, and I am glad that the laboratory of experimentation carries out what we know clinically. I do not think Dr. Wallace intended us to think that the nitrite should be taken internally, but that it should be put up in capsules and inhaled. I think there can be no doubt that the administration of nitroglycerin hypodermically is not at all necessary. Solution on the tongue gives almost instantaneous action.

Dr. Reid Hunt, Washington, D. C.: Does Dr. Wallace think the headaches caused by erythrol-tetranitrate are sufficient to interfere with its use?

Dr. George B. Wallace, New York: They have not been so in cases of high blood-pressure. They are intensely disagreeable.

Dr. Reid Hunt: Is it a drug sufficiently well tried to go into the Pharmacopeia, for example?

Dr. Wallace: Yes, I think it is.

Thyroid Suppuration in Typhoid.—Suppuration of the thyroid is a rare complication of typhoid. Prior to 1907, 20 cases had been reported. In 10 cases typhoid bacilli were isolated from the pus. In 8 cases, a Widal reaction confirmed the diagnoses. In most cases there was an already hypertrophied thyroid, and in one case the thyroid seemed to be primarily infected. A mortality of 40 per cent. is reported by Keen. Incision and drainage are indicated. Removal of a complicating goiter is of questionable feasibility at that time.—W. D. Haggard, in *Southern Medical Journal.*

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[2] Rzentkowski: Ztschr. f. klin. Med., 1909, lxviii, 111.

THE RELATIONSHIP OF THE MEDICAL PROFESSION TO PREVENTIVE MEDICINE*

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To discuss preventive medicine without giving medical men a leading place would be a strange proposition, and yet there is danger of the medical profession losing its leadership in this great work. Should that day ever come it would be one of the greatest misfortunes conceivable. Medical men are able to weigh the pros and cons in dealing with the problems involved in the prevention of disease. A disease may be recognized as transmissible, yet physicians will not know how to prevent its transmission from person to person until its cause is known. After this the method of prevention is easily determined upon.

Dr. J. S. Fulton, in his address as president of the *Conference of State and Provincial Boards of Health* in 1905, said:

> The people have thrust on us the most tremendous task ever proposed in the history of preventive medicine, the extinction of tuberculosis. They are sure it can be done, because we, they say, have told them so. The conquest is so magnificent that they propose to have a share, and as large a share as possible, for themselves.

But it was not till Koch pointed out the cause of tuberculosis that any intelligent action could be taken looking to the suppression of this disease, and even with this knowledge as to the cause the people can accomplish but little in their movement against this great foe of the human race without the leadership of the medical profession. The history of smallpox, typhus fever, yellow fever, plague, etc., is a tribute to the medical profession in its relationship to preventive medicine.

Is the medical profession performing its full duty at the present time in dealing with these problems? Without question this Association is the leading medical society in this country. What is it doing for preventive medicine? It has a weakly Section on Hygiene and Sanitary Science. This Section does not come into intimate contact with the profession at large. It represents a mere handful of men which meets once a year in some church basement to discuss topics that are thoroughly familiar to every worker in hygiene, be he medical man, sanitary engineer, sociologist, or layman.

It is not conditions, but the methods of dealing with conditions, that should be studied. This can be done through existing sanitary associations, such as the American Public Health Association, with an unlimited membership; the Conference of State and Provincial Boards of Health, representing those only who are actively engaged in public health work, and the Conference of State Sanitary Executives, which meets from time to time with the Surgeon-General of the Public Health and Marine-Hospital Service.

But these agencies are not enough. We should have a strong section on preventive medicine in this Association; a section that would bring together the leaders in preventive medicine from the profession at large—the laboratory workers, the clinicians, etc. —and from the sanitary workers—engineers, bacteriologists, health officers, etc. Preventive medicine should have a strong representation in this Association during the entire year—something comparable with the work of the Committee on the Pharmacopeia or of the Council on Medical Education. If the Association is not ready to create and maintain such a section, and to carry on such a line of work, then matters pertaining purely to sanitation might as well be dropped and the present Section on Hygiene and Sanitary Science discontinued.

It is not for this Association to devote a large amount of time to the study of economic problems relating to preventive medicine, but it should state the case and give its members who are interested in such problems an opportunity to work them out. Dr. Fulton, in the address already referred to, states:

> The sociologists have acquired a fund of knowledge concerning tuberculosis, which is quite as scientific and as useful as that possessed by hygienists and medical men. They believe that the methods, which have been developed in the remarkable history of organized charity, may be successfully used in the campaign against tuberculosis. The particular utility of the sociologist in this campaign will be to spread among the people a knowledge of the nature and cause of tuberculosis, and to supply the kind of information not obtainable through the channels which hygienists are accustomed to use. That these lay students can collect useful data, such as physicians rarely obtain, I have been convinced by experience in my own state.

But the responsibilities connected with the control of transmissible diseases can not be turned over to the sociologists. The medical profession must bear a part of the burden. An alliance between the medical profession and the sociologists is most desirable. Assuming that such an alliance will take place, Dr. Fulton says:

> We shall appropriate their information certainly, and their methods as far as they prove adaptable. Meanwhile, our new allies will no doubt learn something from us, and will perhaps think better than we do of our efficiency in this line.

This last is most desirable, for it seems at times that the sociologic leaders are in danger of misbranding the conservatism of the better element of the medical profession, in its dealings with preventive medicine, as narrow-mindedness. It would seem from close observation that the sociologists are in danger, at times at least, of looking to the faddist or the demagogue for leadership in sanitary matters. That we need the best aid of the conservative sociologist in dealing with preventive medicine is beyond question.

We can not make our appeals against disease sufficiently forceful when they are based purely on humanitarian grounds, but when we talk to people in dollars and cents then the arguments count. This is disgraceful, but it is nevertheless a fact. It is also a disgrace to our country that more is done for our animals than for our people. It is not the animal, however, that appeals to our national legislators; it is only the animal product. The animal has a tangible value; therefore, it is not difficult for Congress, in session, to set aside that great American bugaboo, states' rights, and appropriate hundreds of thousands of dollars to suppress an outbreak of foot-and-mouth disease among the cattle of a single state, while not a cent has thus far been procured through this august body to deal with human tuberculosis. It would certainly seem that if an epidemic disease among animals was an interstate problem a transmissible disease in man would be far more so. A diseased animal rarely travels from state to state unless compelled so to do, but human carriers of transmissible diseases are ever on the move from state to state. If human tuberculosis, smallpox, typhoid fever, diphtheria, and, in fact, *every form of human* transmissible disease, are not interstate problems, it surely will be difficult to find such problems.

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*Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixtieth Annual Session, held at Atlantic City, June, 1909.

Meat has been made such a prominent interstate topic that millions of dollars are spent annually to carry out federal inspection, and yet the dangers of transmitting disease by this product to a human being is as nothing compared with the dangers through the daily contact of the traveling public, for which not a dollar of national money has been spent.

Dr. Charles Harrington, in his able oration on state medicine,[1] before this Association in 1908, pointed out that "every attempt thus far made to confer on the national government any real power to supervise the national public health has found the Constitution in the way." Perfected "in an age which knew not steam and electric power and rapid transportation, which knew nothing of the causes of disease and the methods of their spread, which could not foresee the boundless possibilities of the growth and development of the medical sciences, and which could have no conception of the relation of public health to national prosperity," that instrument decreed that "all powers not delegated to the United States or prohibited by the Constitution to the states should be reserved for the states." Further Dr. Harrington states:

> From 1700, when Pennsylvania adopted "an act to prevent sick vessels coming into this government," the several colonies had at various intervals adopted their own laws relative to quarantine, and were not in 1796, or later, willing to allow interference with their foreign commerce; for, in addition to their jealous regard for states' rights, there existed then that same spirit of commercialism which seems to outweigh all consideration of individual and collective health. By lax enforcement of quarantine restriction, a port could attract trade that otherwise would have gone to another, where the laws were enforced with strictness, just as within very recent times we have seen local authorities as mindful of the destructive influence of quarantine on trade, that the existence of pestilential diseases has been denied, in the hope that the outbreak would die out before attracting outside attention.
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> The law of 1796 was repealed in three years in favor of another, which, while providing for assisting the states in enforcing their own laws, empowered the Treasury Department to make rules and regulations concerning the unloading of cargoes of infected vessels at places other than ports of entry, and provided for the storing of cargoes in government storehouses, in accordance with the health laws of any state. This law, it will be noted, related to commerce rather than to public health. Repeated outbreaks of yellow fever led to repeated demands for a national quarantine, but they were always foredoomed to failure on account of the jealous regard for states' rights; and even after the widespread, disastrous and enormously costly epidemic of yellow fever, of 1878, a most reasonable bill to empower the government to act in emergencies beyond the ability of the states to control failed of passage.

It thus appears that it is a simple matter for the federal government to control commerce by interstate laws. Such being the fact, public health officials, with the aid of the medical profession and the sociologists, should endeavor to bring the welfare of human beings under the head of commerce. A move in this direction was made, I believe—whether intentionally or not I can not say—when it was recently suggested that the existing Public Health Bureau should be transferred from the Treasury Department to the Department of Commerce and Labor.

Dr. Harrington further says:

> For a nation that is pre-eminently commercial, this country is singularly blind to the necessity of conserving that which has been well defined as our greatest national asset, namely, the national health. It is useless to attempt to determine the pecuniary loss which the nation suffers annually through sickness and death from preventable diseases, for apart from the mathematical difficulties in the determination of the money value of human life—for human beings are cast in many molds and from different materials, some being parasitic and of a negative economic importance, others of enormous value, and each according to his present and prospective capacities for usefulness—we have but a small proportion of the items necessary for our calculations, which even a moderately good system of sanitary bookkeeping could place at our disposal. The statutory value of five thousand dollars set on a single human life is no more than a guess, and even though it should be determined to be a fairly accurate one, based on the average of a large number of investigated individual cases, the lack of adequate mortality statistics in a large number of our states would render futile any attempt to express the nation's pecuniary loss during any given period from deaths alone. Equally futile, with absolutely nothing more in the line of morbidity statistics than a mere compilation in a minority of the states of the number of persons stricken with certain of the transmissible diseases, and even then with no data as to the number of days lost, would be any calculation of the national sickness account. We can say only that with our great and growing population the annual waste from avoidable diseases must be prodigious. It is true that in a number of our states the state and municipal authorities, fully alive to the importance of protecting the public health, spare no efforts to restrict this loss within their respective jurisdictions, though in many but little is attempted, while the nation as a central authority does practically nothing, states' rights or no states' rights, except in so far as it maintains quarantine and the service for saving lives from the perils of shipwreck. It spends not a dollar to check the ravages of the leading causes of death, excepting the amount used in salaries and running expenses of the Bureau of Public Health and the Hygienic Laboratory, which in comparison with the older laboratories of some of the European governments is not yet of great importance, though growing. . . . In 1905, for example, the nation contributed officers' services, but not one cent of the quarter million dollars spent by New Orleans and not one cent of the expenses incurred by Louisiana, Mississippi and Florida to wipe out yellow fever and prevent its spread to other infectible areas, although the insect that carries the infection disregards states' rights, state lines and interstate quarantine.

From the foregoing it must be apparent that there is a great task before those who are interested in public health, and this Association, if it will take hold of the matter wisely, can be of much service. A great wave of public sentiment, in the form of public health legislation, is passing over the country, but without material effect thus far on either nation or many states. Unless something far-reaching is soon accomplished, the pendulum will be apt to swing back and public health problems will then be in a worse condition than at present.

What the future of the American Medical Association is to be in this great work is for you of the Association to determine, and the work can not be begun too soon. As already stated, instead of a weakly Section, which brings together only men who are already working on sanitary problems through the agency of sanitary organizations, we should have in this Association a strong Section dealing with preventive medicine from all points of view. We should have a permanent Section with the distinct function of bringing before medical men, through The Journal of the American Medical Association, all important matters pertaining to the control of disease. Is the Association ready to begin this new organization of its work pertaining to sanitary problems? If so, why not take up the question at once through the proper official channels?

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[1] Harrington, Charles: States' Rights and the National Health, The Journal A. M. A., June 13, 1908, l, 1953.

Clinical Notes

CEREBRAL ARTERIOSCLEROSIS WITH FOCAL SYMPTOMS CONSISTING OF SENSORY CHANGES AND JACKSONIAN EPILEPSY

A REPORT OF A CASE

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History.—The patient, J. F. W., was aged 67, male, white, married. His father had died, aged 73, of Bright's disease; mother, aged 50, from pleurisy. The patient had had scarlet fever, mumps, and measles when a child. He was a very healthy lad and only recalled one disease, malaria, from which he suffered repeated attacks. He denied all venereal diseases.

Present Illness.—Early in the winter of 1905, patient noticed that it was with effort that he rose from sitting postures. He tired easily and could not walk as far as he could a year previous. When walking he would often strike the right heel on the ground. The length of the stride had diminished. The steps were short and quick, and the patient felt as if he would fall forward. Frontal headaches were frequent. There was no dizziness or vomiting. Patient complained much of a dull pain in the lumbar region. Memory was poor for recent events; patient often very low-spirited, crying easily, not irritable. No paresthesias were complained of. There was no difficulty in passing urine, but urination was frequent, patient getting up three or four times during the night. Bowels were regular; patient slept well.

Examination.—This showed a well-developed man, nutrition good, skin oily and of pasty color. Eyes: Pupils were equal, reacting to light, direct and consensual, contracting to accommodation. Tongue was protruded in mid-line and freely moved in all directions. Sensation was everywhere normal; muscle strength good save in right lower extremity, where definite weakness was noted, especially in muscles of the thigh. Gait was slightly spastic, uncertain, accompanied by a tremor of the muscles of the right lower extremity. The steps were short, quick, the leg barely flexed at the knee. The right foot often scraped along the floor. The tendon reflexes were everywhere active, the right patellar reflex exaggerated; clonus obtained at the right ankle. Plantar stimulation caused plantar flexion of the toes. Pulse was 78 to the minute, regular in force and rhythm, tension plus. Heart: Point of maximum intensity of apex beat in fifth interspace, three and one-half inches from midsternal line. At the apex a loud muscular first sound, and at the base an accentuated aortic, which was clear and ringing, were heard. Urine for twenty-four hours measured from 4 to 6 pints with a specific gravity of 1012, clear, pale, occasional hyaline and granular cast. No albumin. All the arteries palpable were hard and tortuous.

Course of Disease.—A diagnosis of general arteriosclerosis was made and the patient put on treatment. His condition remained practically the same until April 3, 1906. At 7 p. m. on this date he complained of a queer feeling in the head—no pain. This feeling was accompanied by an inablity to use the left hand. He said that it felt dead. He noticed no trouble in the lower extremity. He was somewhat apprehensive but cheerful. I found the patient resting in a chair, with the left hand bent under him in an unnatural position which seemed to give rise to no discomfort. There was partial paralysis of the left upper extremity. He was unable to raise this hand to his head; had no power to resist efforts of flexion or extension of forearm or hand. There was some power in the shoulder group but all movements were definitely weak. In the same extremity there was loss of muscle sense, the patient being unable to detect position of fingers, hand and forearm, or to recognize objects placed in left hand. Touch was lost over hand and forearm. There was no disturbance anywhere of pain and temperature sense. There was some weakness in the left lower extremity but no loss of sensibility. Patient was able to walk but there was a tendency for the left knee to give away. Reflexes were active on this side but no clonus; pulse 100. At 3 a. m. the following morning the patient had a definite convulsion beginning in the left arm, involving the leg and face of the same side. He was thoroughly conscious; expression was anxious. The twitching of the arm and shoulder muscles was almost continuous. Now and then the contractions would become more severe, spreading to the facial group and the muscles of the leg. At 3:30 a. m. the patient had a severe convulsion without loss of consciousness, in which the head and eyes were strongly deviated to the left. Between 3 a. m. and 6:30 a. m. the patient had seven convulsions, always beginning in the shoulder and arm, spreading to the face and leg. The third convulsion became general, the left arm being carried above the head. Consciousness was retained. The fourth was severe, with loss of consciousness, the duration about one hour and thirty minutes. The pulse had progressively increased in rate, being 180 to the minute. The breathing was deep and rapid. The above symptoms pointed to some trouble in the region of the Rolandic fissure. The loss of muscle, joint and stereognostic senses of the left upper extremity suggested trouble posterior to the fissure on the right. The muscle twitchings pointed to irritation in the precentral convolution. The patient appeared to be getting progressively worse, the convulsions being more severe and the intervals between shorter, so without much hesitation I suggested an operation as a possible means of relief for the intercranial pressure which I thought existed. Dr. Harvey Cushing, who kindly saw the patient with me, agreed to the advisability of the operation.

Operation.—Three hours later, the patient having been removed to the Union Protestant Infirmary, the operation was undertaken. Dr. Cushing opened the skull under the right temporal muscle and the Rolandic area was exposed. We expected to see the brain bulging through the opening under increased tension when the bone flap was raised, but no such thing occurred. The brain surface was wet but otherwise normal to all appearances. A simple subtemporal decompression was accomplished and the patient put to bed in good condition.

Postoperative History.—Except for some slight twitching in the left shoulder, recovery was uninterrupted. Examination nine days after the operation showed the patient resting comfortably in bed, extremities in a natural position, perfect symmetry of the face. Eyes showed nothing abnormal. Facial movements were performed well. The left arm, forearm and hand showed definite weakness. The lower extremities were the same as before the operation, with the exception that plantar stimulation of the left sole caused dorsal flexion of the toes. The tendon reflexes were more active in the left arm and now clonus was obtained with difficulty on both sides. Tactile sense was impaired over the left upper extremity, elsewhere normal. As to localization, etc., the patient's mental state was such as to preclude a detail examination; he localized very poorly, however, over the left arm and trunk. Pain and temperature sense were not affected; muscle sense normal save in the left arm, forearm and hand. The patient could not recognize any position of the fingers, hand or forearm. Sensation was impaired in the left leg to less extent. The patient was unable to recognize any object placed in the left hand. The patient gradually improved so that he could walk from one room to another. He made almost no use of his left hand, although when instructed he could grasp the observer's hand with fair strength. The movements were ataxic. On May 5 it was noticed that he could not use his right hand as well as he could a week previous, and in walking the right foot was dragged along the floor. It was noted that the tongue protruded toward the right, and that there was definite weakness in the right arm and leg. Patellar reflex and ankle-clonus were present, and now plantar stimulation caused dorsal flexion of the toes on the right as well as the left. The patient was very forgetful, not remembering happenings within the hour. There was mental confusion as to time, place, etc. From this time the course was progressively downward, the mental symptoms increasing. Late in August the patient developed a very quick pulse and Cheyne-Stokes breathing. He became very stupid and finally unconscious, in which condition he remained several days. He rallied and improvement was noted for several weeks. From the middle of September his mental state became much worse. For days he was in a state transmissible disease, are not interstate problems, it surely will be difficult to find such problems.

Meat has been made such a prominent interstate topic that millions of dollars are spent annually to carry out federal inspection, and yet the dangers of transmitting disease by this product to a human being is as nothing compared with the dangers through the daily contact of the traveling public, for which not a dollar of national money has been spent.

Dr. Charles Harrington, in his able oration on state medicine,[1] before this Association in 1908, pointed out that "every attempt thus far made to confer on the national government any real power to supervise the national public health has found the Constitution in the way." Perfected "in an age which knew not steam and electric power and rapid transportation, which knew nothing of the causes of disease and the methods of their spread, which could not foresee the boundless possibilities of the growth and development of the medical sciences, and which could have no conception of the relation of public health to national prosperity," that instrument decreed that "all powers not delegated to the United States or prohibited by the Constitution to the states should be reserved for the states." Further Dr. Harrington states:

> From 1700, when Pennsylvania adopted "an act to prevent sick vessels coming into this government," the several colonies had at various intervals adopted their own laws relative to quarantine, and were not in 1796, or later, willing to allow interference with their foreign commerce; for, in addition to their jealous regard for states' rights, there existed then that same spirit of commercialism which seems to outweigh all consideration of individual and collective health. By lax enforcement of quarantine restriction, a port could attract trade that otherwise would have gone to another, where the laws were enforced with strictness, just as within very recent times we have seen local authorities as mindful of the destructive influence of quarantine on trade, that the existence of pestilential diseases has been denied, in the hope that the outbreak would die out before attracting outside attention.
>
> The law of 1796 was repealed in three years in favor of another, which, while providing for assisting the states in enforcing their own laws, empowered the Treasury Department to make rules and regulations concerning the unloading of cargoes of infected vessels at places other than ports of entry, and provided for the storing of cargoes in government storehouses, in accordance with the health laws of any state. This law, it will be noted, related to commerce rather than to public health. Repeated outbreaks of yellow fever led to repeated demands for a national quarantine, but they were always foredoomed to failure on account of the jealous regard for states' rights; and even after the widespread, disastrous and enormously costly epidemic of yellow fever, of 1878, a most reasonable bill to empower the government to act in emergencies beyond the ability of the states to control failed of passage.

It thus appears that it is a simple matter for the federal government to control commerce by interstate laws. Such being the fact, public health officials, with the aid of the medical profession and the sociologists, should endeavor to bring the welfare of human beings under the head of commerce. A move in this direction was made, I believe—whether intentionally or not I can not say—when it was recently suggested that the existing Public Health Bureau should be transferred from the Treasury Department to the Department of Commerce and Labor.

Dr. Harrington further says:

> For a nation that is pre-eminently commercial, this country is singularly blind to the necessity of conserving that which has been well defined as our greatest national asset, namely, the national health. It is useless to attempt to determine the pecuniary loss which the nation suffers annually through sickness and death from preventable diseases, for apart from the mathematical difficulties in the determination of the money value of human life—for human beings are cast in many molds and from different materials, some being parasitic and of a negative economic importance, others of enormous value, and each according to his present and prospective capacities for usefulness—we have but a small proportion of the items necessary for our calculations, which even a moderately good system of sanitary bookkeeping could place at our disposal. The statutory value of five thousand dollars set on a single human life is no more than a guess, and even though it should be determined to be a fairly accurate one, based on the average of a large number of investigated individual cases, the lack of adequate mortality statistics in a large number of our states would render futile any attempt to express the nation's pecuniary loss during any given period from deaths alone. Equally futile, with absolutely nothing more in the line of morbidity statistics than a mere compilation in a minority of the states of the number of persons stricken with certain of the transmissible diseases, and even then with no data as to the number of days lost, would be any calculation of the national sickness account. We can say only that with our great and growing population the annual waste from avoidable diseases must be prodigious. It is true that in a number of our states the state and municipal authorities, fully alive to the importance of protecting the public health, spare no efforts to restrict this loss within their respective jurisdictions, though in many but little is attempted, while the nation as a central authority does practically nothing, states' rights or no states' rights, except in so far as it maintains quarantine and the service for saving lives from the perils of shipwreck. It spends not a dollar to check the ravages of the leading causes of death, excepting the amount used in salaries and running expenses of the Bureau of Public Health and the Hygienic Laboratory, which in comparison with the older laboratories of some of the European governments is not yet of great importance, though growing. . . . In 1905, for example, the nation contributed officers' services, but not one cent of the quarter million dollars spent by New Orleans and not one cent of the expenses incurred by Louisiana, Mississippi and Florida to wipe out yellow fever and prevent its spread to other infectible areas, although the insect that carries the infection disregards states' rights, state lines and interstate quarantine.

From the foregoing it must be apparent that there is a great task before those who are interested in public health, and this Association, if it will take hold of the matter wisely, can be of much service. A great wave of public sentiment, in the form of public health legislation, is passing over the country, but without material effect thus far on either nation or many states. Unless something far-reaching is soon accomplished, the pendulum will be apt to swing back and public health problems will then be in a worse condition than at present.

What the future of the American Medical Association is to be in this great work is for you of the Association to determine, and the work can not be begun too soon. As already stated, instead of a weakly Section, which brings together only men who are already working on sanitary problems through the agency of sanitary organizations, we should have in this Association a strong Section dealing with preventive medicine from all points of view. We should have a permanent Section with the distinct function of bringing before medical men, through The Journal of the American Medical Association, all important matters pertaining to the control of disease. Is the Association ready to begin this new organization of its work pertaining to sanitary problems? If so, why not take up the question at once through the proper official channels?

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[1] Harrington, Charles: States' Rights and the National Health. The Journal A. M. A., June 13, 1908, l, 1953.

Clinical Notes

CEREBRAL ARTERIOSCLEROSIS WITH FOCAL SYMPTOMS CONSISTING OF SENSORY CHANGES AND JACKSONIAN EPILEPSY

A REPORT OF A CASE

H. D. McCARTY, M.D.
BALTIMORE

History.—The patient, J. F. W., was aged 67, male, white, married. His father had died, aged 73, of Bright's disease; mother, aged 50, from pleurisy. The patient had had scarlet fever, mumps, and measles when a child. He was a very healthy lad and only recalled one disease, malaria, from which he suffered repeated attacks. He denied all venereal diseases.

Present Illness.—Early in the winter of 1905, patient noticed that it was with effort that he rose from sitting postures. He tired easily and could not walk as far as he could a year previous. When walking he would often strike the right heel on the ground. The length of the stride had diminished. The steps were short and quick, and the patient felt as if he would fall forward. Frontal headaches were frequent. There was no dizziness or vomiting. Patient complained much of a dull pain in the lumbar region. Memory was poor for recent events; patient often very low-spirited, crying easily, not irritable. No paresthesias were complained of. There was no difficulty in passing urine, but urination was frequent, patient getting up three or four times during the night. Bowels were regular; patient slept well.

Examination.—This showed a well-developed man, nutrition good, skin oily and of pasty color. Eyes: Pupils were equal, reacting to light, direct and consensual, contracting to accommodation. Tongue was protruded in mid-line and freely moved in all directions. Sensation was everywhere normal; muscle strength good save in right lower extremity, where definite weakness was noted, especially in muscles of the thigh. Gait was slightly spastic, uncertain, accompanied by a tremor of the muscles of the right lower extremity. The steps were short, quick, the leg barely flexed at the knee. The right foot often scraped along the floor. The tendon reflexes were everywhere active, the right patellar reflex exaggerated; clonus obtained at the right ankle. Plantar stimulation caused plantar flexion of the toes. Pulse was 78 to the minute, regular in force and rhythm, tension plus. Heart: Point of maximum intensity of apex beat in fifth interspace, three and one-half inches from midsternal line. At the apex a loud muscular first sound, and at the base an accentuated aortic, which was clear and ringing, were heard. Urine for twenty-four hours measured from 4 to 6 pints with a specific gravity of 1012, clear, pale, occasional hyaline and granular cast. No albumin. All the arteries palpable were hard and tortuous.

Course of Disease.—A diagnosis of general arteriosclerosis was made and the patient put on treatment. His condition remained practically the same until April 3, 1906. At 7 p. m. on this date he complained of a queer feeling in the head—no pain. This feeling was accompanied by an inablity to use the left hand. He said that it felt dead. He noticed no trouble in the lower extremity. He was somewhat apprehensive but cheerful. I found the patient resting in a chair, with the left hand bent under him in an unnatural position which seemed to give rise to no discomfort. There was partial paralysis of the left upper extremity. He was unable to raise this hand to his head; had no power to resist efforts of flexion or extension of forearm or hand. There was some power in the shoulder group but all movements were definitely weak. In the same extremity there was loss of muscle sense, the patient being unable to detect position of fingers, hand and forearm, or to recognize objects placed in left hand. Touch was lost over hand and forearm. There was no disturbance anywhere of pain and temperature sense. There was some weakness in the left lower extremity but no loss of sensibility. Patient was able to walk but there was a tendency for the left knee to give away. Reflexes were active on this side but no clonus; pulse 100. At 3 a. m. the following morning the patient had a definite convulsion beginning in the left arm, involving the leg and face of the same side. He was thoroughly conscious; expression was anxious. The twitching of the arm and shoulder muscles was almost continuous. Now and then the contractions would become more severe, spreading to the facial group and the muscles of the leg. At 3:30 a. m. the patient had a severe convulsion without loss of consciousness, in which the head and eyes were strongly deviated to the left. Between 3 a. m. and 6:30 a. m. the patient had seven convulsions, always beginning in the shoulder and arm, spreading to the face and leg. The third convulsion became general, the left arm being carried above the head. Consciousness was retained. The fourth was severe, with loss of consciousness, the duration about one hour and thirty minutes. The pulse had progressively increased in rate, being 180 to the minute. The breathing was deep and rapid. The above symptoms pointed to some trouble in the region of the Rolandic fissure. The loss of muscle, joint and stereognostic senses of the left upper extremity suggested trouble posterior to the fissure on the right. The muscle twitchings pointed to irritation in the precentral convolution. The patient appeared to be getting progressively worse, the convulsions being more severe and the intervals between shorter, so without much hesitation I suggested an operation as a possible means of relief for the intercranial pressure which I thought existed. Dr. Harvey Cushing, who kindly saw the patient with me, agreed to the advisability of the operation.

Operation.—Three hours later, the patient having been removed to the Union Protestant Infirmary, the operation was undertaken. Dr. Cushing opened the skull under the right temporal muscle and the Rolandic area was exposed. We expected to see the brain bulging through the opening under increased tension when the bone flap was raised, but no such thing occurred. The brain surface was wet but otherwise normal to all appearances. A simple subtemporal decompression was accomplished and the patient put to bed in good condition.

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This case appears to be a very typical example of cerebral arteriosclerosis, showing the characteristic mental and physical symptoms. I think it probable that there had been some softening of the left hemisphere before I saw the patient, which accounted for the weakness of the right leg and exaggerated reflexes noted at my first visit. The attack, ushered in by weakness, loss of muscle sense and astereognosis in the left hand and followed by Jacksonian convulsions of the left side, indicated a fresh lesion on the right side of the brain. This was in all probability due to a thrombosis of vessels supplying the posterior Rolandic cortex. The improvement, apparently due to the operation, is remarkable in light of the fact that no increased intercranial pressure was discovered.

The subsequent course of the disease was typical of a progressing cerebral condition due to the gradual closing of the vessels with the resulting softening.

613 Park Avenue.

EMPYEMA

REPORT OF TWO CASES WITH SOME UNUSUAL FEATURES *

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ROSWELL, N. M.

The following case of empyema seems worth reporting because of the unusual amount of pus evacuated and the fact that its removal caused so little disturbance to the circulation:

Case 1.—*Patient.*—About noon on January 4, there came into my office a young man aged 21. He was able to say but one or two words and then was obliged to stop to get his breath.

Examination.—I found that the left side of the chest was greatly distended and that there were three large, flat, tumorlike masses almost covering it. I made a diagnosis of empyema. I supposed that the pus had forced its way through the intercostal fascia and therefore that these projections were abscesses in the soft tissue of the chest wall. The heart occupied about the same relative position on the right side that it normally does on the left. The stomach and intestines were pushed down so that the abdomen projected like that of a very corpulent man. The limbs, arms and face were emaciated so that the patient's appearance was almost grotesque.

He told me that this condition had lasted about three months and was slowly getting worse. He walked out of my office, got into the buggy and I took him at once to the hospital where I left orders to have him prepared for an operation at 8 o'clock the next morning. I returned to the hospital at 8 that evening and the nurse met me with the statement that the patient was dying, and so it looked to me.

First Operation.—I inserted an aspirating-needle, applied a pump, and began to draw the fluid into a graduated bottle. After obtaining a quart of pus, I stopped to examine his pulse and chest and found him breathing evenly; in fact, he said he was very comfortable. The odor from the pus was so bad that one of the sisters, who was holding a kerosene lamp, was obliged to leave the room and we had to change assistants several times. The patient himself volunteered to hold the lamp, but instead I allowed him to hold the needle while I did the pumping. I continued this for an hour and a half, the patient at no time feeling faint or dizzy, and when I had drawn out 188 fluidounces or almost six quarts of pus, I stopped, not because the pus gave out but because I had never heard of this amount of fluid being taken from the chest cavity at one time and I feared that there might be much shock. When I began aspirating the pulse was 130, the respiration 50 and the temperature 100. When I finished the pulse was 108, and the respiration 20. On drawing out the needle more than one-half pint of pus ran out through the puncture.

The patient expressed himself as feeling better than he could remember to have felt ever before. He lay down, went to sleep and slept all night. The next day his appetite was good, almost ravenous. His bowels moved more freely than they had for months.

Second Operation.—Five days later Dr. Phillips administered chloroform and I resected a part of the eighth rib, turned the patient over on his side and poured out more than a gallon of pus, filling to overflowing a large surgical basin. I inserted two large drainage-tubes and put on a large dressing.

Postoperative History.—The odor was so extremely offensive that I always changed the dressings myself, and irrigated the wound daily with a solution of permanganate of potash. The soft swellings and great distention of the bony wall of the chest rapidly disappeared, but there was not the slightest tendency shown by the heart to return to the left side, nor was there any evidence of lung tissue in the left side of the chest, the cavity remaining to the end apparently as large as it was two or three weeks subsequent to the operation. The heart seemed firmly fixed in its new position. The remains of the left lung, if there were any, took the form of a small, solid mass in the upper part of the cavity. The patient was reasonably comfortable for some time, but tuberculosis had attacked the other lung, and the man died five months after I first saw him.

Case 2.—*Patient.*—P. F., a young man aged 26, born and raised in Texas, came to me Jan. 21, 1909. He had had typhoid fever at 14 and again at 15; at 16 he had typhoid and pneumonia, being laid up for forty-nine days. As soon as that attack was over he contracted measles, then smallpox and then scarlet fever. He had a rise of temperature in the afternoon and on any exertion. Following the pneumonia a cough and an abscess of the lung developed and for ten years the patient had expectorated great quantities of very offensive pus, sometimes as much as a pint a day.

Examination—Patient was emaciated, with sunken cheeks; pulse was 110, temperature normal, apex of heart two inches inside of the left nipple and on a level with it. The left side of the chest was dull below the fourth rib. There was a tumefaction in the left side of the abdomen, reaching to the umbilicus and to the spine of the ilium. The dulness of this tumefaction was continuous with the chest dulness. The patient had not been able to do any work for ten years.

First and Second Operations.—I recommended an exploratory laparotomy, which was performed on Feb. 17, 1909, after which it was intended to resect a rib and try to drain the abscess. The tumefaction proved to be a greatly enlarged and displaced spleen. The notch could not be palpated before operation. Much difficulty was found in closing this wound and, the patient's condition being bad, the operation on the thorax was abandoned for the time. The patient rallied well from this operation and on Feb. 23 he was again anesthetized for the resection of a rib. The eighth rib was resected at a point just anterior to the axillary line. The rib was so hard that it required all my force to sever it with an 8-inch heavy bone-cutting forceps. With this piece of rib removed I was unable to introduce the end of my index-finger in the space between the ribs above and below the one removed, so that a second had to be resected and a portion of a third. The distance from the skin to the walls of the pus cavity was over two inches. When the cavity was opened a quart of extremely offensive and thick pus was removed. Two large drainage-tubes were introduced.

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* Read before the Pecos Valley Medical Society, Aug. 31, 1909.

The patient made a good recovery from this operation, and all of the symptoms began at once to improve. The cavity was irrigated every day with a solution of permanganate of potash and occasionally a watery solution of iodin. An electric light introduced into the cavity about two weeks after the operation showed the walls to be covered with what looked to be healthy granulations. On filling the cavity with a fluid it was found to hold eight ounces. The patient left the hospital on March 21. On March 25 the cavity would hold two and one-half ounces; on May 12, one and one-half ounces. The patient went home, dressing the wound himself. A few days later he wrote me that the tube had come out and that he was unable to replace it. He called on May 29, when the wound was completely closed. He had gained in weight and was able to work every day, driving a mail wagon. On June 1 he had a slight chill, with pain in the right side of the chest and fever.

Third Operation.—On June 4, I opened the sinus without anesthesia, going in about one inch and getting two or three c.c. of pus. Strange to say, this pus had practically no odor.

At this date, September 1, there is a sinus about two inches deep and one-eighth of an inch in diameter. So far as I can determine, there is no cavity at the end of the sinus. The man is now doing regular farm work and is able to do as much or more than the average farm hand.

A NEW METHOD OF STAINING MOTILE ORGANISMS, RENAL TUBE CASTS AND FIXED SMEARS OF SPIROCHÆTA PALLIDA

EDGAR G. BALLENGER, M.D.
ATLANTA, GA.

The ease with which motile bacteria may be seen with the dark-field apparatus led me to investigate the feasibility of staining the germs while alive and motile; the results have been so satisfactory that I desire to describe the following simple technic of staining specimens without fixing the smears: One drop of the fluid to be examined and one drop of a 1 per cent. solution of dahlia are mixed on a clean slide and a thin cover-glass is placed over it; the specimen is then ready for examination with the low power, high power or oil immersion lens. When too much fluid is placed on the slide a drop of it may be transferred with a platinum loop to another slide after an equal amount of stain has been mixed with it. When using the oil immersion lens it is important to have only a very small quantity of the secretion under the cover-glass. The dahlia should be used in an aqueous solution, but unless freshly prepared this may become infected; to prevent this I have made a 10 per cent. solution of the stain in 90 per cent. alcohol; I dilute one part of it with nine parts of water just before using it. This amount of alcohol does not affect the motility of the germs for a considerable time.

The clearness and facility with which motile organisms may thus be observed is more satisfactory than in the ordinary fixed smears or by the dark-field illumination. Tube casts are immediately stained, and in this way may be rendered less likely to be overlooked, even the hyaline ones being stained, as are the pus cells, epithelial cells and mucus.

While using the Reichert dark-field illuminator I was astonished at the frequency and enormous numbers of motile organisms found in the secretion expressed from the prostate glands of patients who had mild but persistent irritation around the neck of the bladder, or slight urethal discharge. These observations have been confirmed and the technic simplified by the above method of staining, and I feel sure that a further development of the subject will throw much light on this rather large class of patients with which we so frequently come in contact, and probably on the etiology of prostatic hypertrophy in elderly men. The small amount of pus present is often misleading. In hyperacute or complicated gonorrheal urethritis an excess of infecting organisms other than gonococci have been frequently observed, and, as they often preponderate in numbers, they may be found to be the cause of the unusually severe inflammation. A further report will be made on the rôle played by organisms other than gonococci in genito-urinary affections.

Fixed smears of the *Spirochæta pallida* are more clearly stained by dahlia than by any of the other stains I have used (Giemsa, Goldhorn and the modified Romanowsky) and are then more easily seen than with the dark-field illumination; about 5 or 6 per cent. aqueous solutions will stain them in 5 to 8 minutes. While the spirochetes may be seen when alive and motile, I have been able to demonstrate them more clearly in the fixed smears when deeply stained with the strong aqueous solution.

Dahlia is an intense stain and has a remarkable affinity for germs and for pus cells; when a weak solution is added to purulent secretion or urine nearly all of it is quickly taken up by the organic material and the field is left clear enough for delicate observations. The amount of the stain to be used, accordingly, varies with the amount of the pus and bacteria present; very little stain is required in staining clear urine for tube casts. If the staining of a specimen is too feeble a drop of the stain may be placed just at the edge of the cover-glass; enough of it will be drawn under it to bring out more clearly the organic substances.

It was found that the other stains tested in working out the above technic must be used in such strength, to stain the germs sufficiently, that the field is made too dark for a satisfactory examination.

From my experience during the last few months, since this method has been in use, it seems that it should have a distinct place in the laboratory of every physician who does microscopic work. Since its adoption the Reichert dark-field illumination has been entirely discarded except in verifying some of the results. As far as I can find, such use has not been made previously of this or other stains.

1013 Century Building.

How to Crank the Car.—Though cranking a motor seems a matter concerning which no particular instruction is required, remarks the *Cooperator*, there is a right and a wrong way of cranking. The novice will invariably grasp the starting handle as he would a club, so that his fingers envelop the handle in one direction and his thumb in the other. This method should be avoided by every one who does not desire to suffer the consequences of a back-kick. The thumb should not be used, but should be folded up against the fingers. A back-kick will then do no harm, but simply will open the fingers. This is particularly true when the left hand is used in starting, because then the operator's arm is extended on the upward pull of the handle and the back-fire will open the hand and throw it out of the field of rotation of the crank.

EYE SYMPTOMS OF PELLAGRA

PRELIMINARY REPORT OF EXAMINATION OF EYES OF FIFTY-FIVE PATIENTS

CARROLL B. WELTON, M.D.
PEORIA, ILL.

The fifty-five patients were examined at the Illinois State Hospital for the Insane at Bartonville, Ill. The psychoses of these patients showed such types as epileptic insanity, dementia præcox, manic depressive insanity, imbecility, puerperal mania, paranoia, senile dementia, and a few unclassified conditions. An equal number of patients displaying psychoses of the same classes, but having no symptom of pellagra, were examined and used as controls.

The ages of the patients with pellagra varied from 22 to 70 years, with an average age of 48 years, and of the 55 patients there were 9 males and 46 females. Seventeen showed no abnormality of the eyes, either in the muscular apparatus, lids, pupil reactions or the fundus.

The only symptom that I found involving the lid was ptosis, which was present in one case, but Manson[1] states that this is not an uncommon sign. Paralysis of the external eye muscles occurred in 3 per cent. of these patients, with no cases occurring in the controls. Bellamy[2] states that, after the third recurrence of pellagra, palsy of the motor oculi nerve may be found, though it was not present in the seven cases reported by him. Von Neusser[3] noted diplopia with negative optic muscle condition, but his patients were not among the insane, and his observations obviously could not be verified in this class of patients. He also noted nystagmus, which was not found among my cases.

Conjunctivitis was found in 10 per cent. of the pellagrous patients whom I examined. In no case of pellagra was there found involvement of cornea. The vision of twenty-two of the patients with pellagra was examined; it was impossible to determine the vision in thirty-two cases on account of the degree of dementia present. One patient was blind and two showed only quantitative vision. Six had vision of 15/30, five had 15/40, nine had 15/50 or less. In these patients taken as a group, the visual acuity was less than in the patients not affected with pellagra. Reduction of vision is also reported by von Neusser.

In the pupillary changes the light reflex was diminished or abolished in 12 per cent. of the cases of pellagra. The Argyll-Robertson phenomenon was present in two of these, and neither of these patients had tabes or paresis; these two conditions were not present among any of the fifty-five patients with pellagra. The Argyll-Robertson pupil, however, cannot be considered a symptom of pellagra unless the latter is proved to be a parasyphilitic disease. Among the patients showing pupil changes were found three with diminished light reaction, with the same condition present in three of the controls.

Two cases are also included in which all the internal muscles of the eye were paralyzed (internal ophthalmoplegia); but in the controls five such cases were found. Therefore the pupil changes were not found as frequently in the pellagra cases as in the control cases, and from my observation cannot be regarded as a symptom of the disease. In this respect I cannot verify the statements of von Neusser and Zanon, who report the diminution or loss of light reflex in all cases.

An interesting fact, though not symptomatic of pellagra, was noted in these two groups of insane patients. Of the 110 patients 41, or 37 per cent. of them, presented inequality of the pupils, it being found in 22 of the patients with pellagra and in 19 of the control cases. The right pupil was larger in 29 and the left larger in 12. Bach[4] states that about 10 per cent. of normal individuals show inequality of the pupils, so that the insane, according to this observation, show over three and a half times that number.

Cataractous lenses were found in 12 per cent. of the patients with pellagra, whereas only 3 per cent. of the controls showed changes in the lens. The ages of the pellagrous patients showing lenticular changes ran from 40 to 69 years, with an average of 52 years. The urine in these cases was negative to tests for albumin and sugar. Von Neusser also noted frequent early-forming cataracts in his cases, but he gives no percentage in number found. In looking over the clinical histories which were compiled by Captain Siler of the U. S. Army service, the blood pressure in these cataractous cases averaged 137 mm. Hg., the lowest being 125 mm., the highest 155 mm. This would not substantiate the view that a high blood-pressure accompanies cataractous conditions of the lens—at least not in pellagra. A number of traumatic cataracts were observed in the examination, but, of course, were not included in the statistics given above.

Five per cent. of the pellagrous patients showed vitreous opacities; there was no case of this kind among the controls. Optic neuritis was present in 5 per cent. of the pellagrous patients, and one presented a secondary atrophy of the papilla. Some cases of primary atrophy were noted among the patients with pellagra, but primary atrophy was also found in the controls.

In the retina, retinitis or retinal atrophy was observed in 10 per cent. of the cases, complete atrophy of the retina being present in one case. Diffuse chorioretinitis was found in one case and retinal hemorrhages noted in one case. The examination of the urine in these cases showing retinal changes was negative for albumin and sugar. Arteriosclerotic changes in the retinal vessels were present in 7 per cent. of the pellagrous patients, and the ages ranged from 45 to 69 years, the blood-pressure running from 125 mm. to 190 mm. Hg.

The choroid was involved in 10 per cent. and to a marked degree, while no changes were found in the controls. In going back over the cases that showed marked lesions of the choroid the asylum records show that five of these patients have died since the examination was made, only one surviving. These patients showing choroidal lesions all displayed severe types of pellagra, except one living now, who had a moderate degree of the disease.

Dividing the 55 cases into three classes—severe, moderate and mild—4 of the mild cases show eye changes and 15 show none, with no deaths in this class. In the moderate cases, 6 show eye changes and 8 show none, with one death among the ones having eye symptoms. In the severe type of the disease, 13 show eye changes, and out of these 13 there have been 9 deaths. Nine of the severe cases show no eye changes, with 4 deaths among them. This shows a mortality of 43 per cent. in the cases of pellagra presenting eye symptoms.

CONCLUSIONS

The conclusions that I have reached from a study of these cases are the following:

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[1] Manson: Tropical Diseases, 1907, p. 339.

[2] Bellamy, R. Harllee: Pellagra; Its Occurrence in This Country; Report of Cases, The Journal A. M. A., Aug. 1, 1908, li, 398.

[3] Von Neusser: Verhandl. d. Gesellsch. deutsch. Naturf. u. Aerzte, 1906, Part 1.

[4] Pupillenlehre, 1908.

1. Paralysis of the eye muscles is found in the later stage of the disease in a small percentage of cases; conjunctivitis is not an uncommon symptom. Early-forming cataracts are frequently noted, and the theory of the metabolic nature of pellagra is supported, because cataract is generally considered as an altered state of the nutrition of the lens when occurring in normal individuals. Inflammation of the optic nerve and retina is observed in a relatively large percentage of cases. Common, and most pronounced of all the eye changes, is involvement of the choroid.

2. In none of the cases presenting eye symptoms could the character of the eye changes be regarded as pathognomonic of pellagra.

3. The severity of the eye symptoms runs parallel with the severity of the general manifestations of the disease and that the finding of marked eye changes adds to the gravity of the prognosis in pellagra and indicates, in a large percentage of cases, an early fatal termination.

237 Woolner Building.

AN INEXPENSIVE SUSPENSORY APPARATUS FOR POTT'S DISEASE

THOMPSON FRAZER, M.D.
ASHEVILLE, N. C.

The general practitioner, who has but an occasional case of Pott's disease to treat, frequently finds the expense of a suspensory apparatus, as supplied by the manufacturers of deformity appliances, prohibitive. The following device which I have employed has the advantages of cheapness and availability:

A large screw-hook and a cleat may be purchased for a few cents. The hook is screwed into the top of the doorway, and to this is fastened a set of three pulleys and rope (an old "exerciser" can be used); to the lower pulley is attached an ordinary wooden coat-hanger. A Barton's head-bandage is firmly applied to the child's head and a roller bandage is passed through the center of this and made fast to the coat-hanger above. The length of this bandage is determined by the length of the child's arms, the hands grasping the ends of the coat-hanger or being thrust through loops attached to it.

The apparatus is easily adjusted by means of the rope and pulleys, and when the heels are elevated to the desired height the free end of the rope is made fast to the cleat, which should be fastened to the door-case a foot or two above the floor.

Medical Building.

Frequency of Antitoxin Accidents Increases with Age.—Marfan and Oppert state that the percentage of cases in which serum accidents were observed after injection of diphtheria antitoxin in 2,682 children in their service during the last three or four years increased from 4 per cent. of 26 children under six months and 5.8 per cent. of 68 under a year to 13 per cent. of 1,519 children between 2 and 6, while the proportion is 40 per cent. in adults. About 44 per cent. of 134 persons inoculated with antiplague serum at Frioul quarantine displayed serum accidents. In the dyspeptic the disturbances were digestive, while those predisposed to joint affections developed painful and tenacious arthritis, some exhibiting an actual infectious pseudorheumatism and others more or less well-defined neuritis. Leroux who reports these disturbances remarks that the antiplague serum seemed to rouse old taints, and some of the patients did not regain their previous health for several weeks. The communications on the subject were published in the *Bull. de Pédiatrie de Paris*, April, 1909.

THE TREATMENT OF TUBERCULIN REACTIONS

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LIBERTY, N. Y.

It is now certain that tuberculin has entered our materia medica to remain. Not only is it being used for diagnostic purposes, but it is also gaining ground, slowly but surely, as a therapeutic agent in the treatment of tuberculosis in all of its forms and manifestations. There is hardly a sanatorium for the treatment of tuberculosis where it is not considered the diagnostic agent *par excellence* in obscure cases, and in many sanatoriums it is used for immunizing purposes. All this is due to the fact that the action of tuberculin has been carefully observed, so that its great potency has been appreciated, and doses that some eighteen years ago would have been scoffed at as homeopathic, if employed as initial doses, are now considered dangerous.

Pulmonary tuberculosis is now being treated with tuberculin, and, owing to cautious use, almost, but not entirely, without reactions.

From observations in my own practice and in that of others I must state that tuberculin reactions are of common occurrence in practice. There are only a few patients, if any, who have been brought up to a considerable dose and who have passed their course of treatment without any reactions. In some cases the reactions were at times mild, often overlooked; at other times they were violent.

I am as cautious in my use of tuberculin as it is possible to be; still I have seen a good many reactions, even in cases in which the increase of the dose was only 4 per cent., and also from such small doses as 0.00000015 of the B.E. and 0.00002 of the O.T.

Tuberculin is a very treacherous agent, and it will probably remain such until its action is better understood than at the present day. Until that time we must be prepared for reactions, at times violent ones; and therefore the treatment of reactions is an important problem in the treatment of tuberculosis by tuberculin.

The reaction usually manifests itself within six to eight hours after the administration of the tuberculin; sometimes its prodroma begins as early as an hour after the injection is made; sometimes it may be delayed for thirty-six hours. It is usually accompanied by a feeling of oppression in the chest wherever the foci of the disease may be situated. There is pain in almost all the bones of the body; a patient of mine has said that he felt as if he was "pounded up in a mortar and all joints made loose;" there is a feeling of nausea; sometimes emesis ensues; there is often a high fever; temperature will rise at times rapidly, at others slowly; sometimes there is no temperature rise at all. With the nausea and vomiting there is also pain or tenderness in the epigastrium, but the latter may also be present without the former. A cold perspiration often covers the patient's body; the skin sometimes becomes cold and clammy, but at times it is hot and dry; the face is at times flushed and at times cyanotic or of an ashen color. Chills and rigors may also sometimes be seen during a strong reaction.

When one looks at the patient overcome by the tuberculin reaction, one is often struck by the similarity of the clinical picture of the tuberculin reaction to the one of a ptomain poisoning, or of a toxemia in general.

The train of symptoms in a tuberculin reaction is caused in two ways:

1. By the action of tuberculin as a toxin in general.

2. By the action of the tuberculin in the foci of the disease.

The general toxemia element is usually more predominant, in the reaction from the diagnostic use of tuberculin, when the increase of succeeding doses is fivefold the preceding ones. In the reaction from the use of therapeutic doses the focal or specific phenomena in the diseased area are more prevalent.

The reaction from therapeutic doses gives also the same train of symptoms as that from diagnostic doses, but with less severity. These symptoms are usually the accompaniment or the result of the formation of the autoprotective elements, the disintegration, and are sometimes due to the process of absorption of the diseased area. These reactions are evidences of the fact that immunity is being created; they are to an extent beneficial, and to interfere with them or to stop them would mean to lose ground, gained by active immunization, through the administration of tuberculin.

From the foregoing it can easily be deduced that the treatment of the reactions must vary. In cases of reactions from diagnostic doses, in which the general toxemia is the dominant feature, eliminatives may and sometimes must be resorted to, but such treatment in reactions from the therapeutic use of tuberculin would be contrary to the purpose of producing immunity.

In treating reactions produced by diagnostic doses the symptomatic treatment is advisable. First of all, perfect rest is of utmost importance; not only should noise be kept away from the patient, but light is often irritating, and the room of the patient should be therefore somewhat darkened.

The nausea and vomiting are often relieved by an ice-bag over the epigastrium; should this be insufficient, bismuth subnitrate in combination with cerium oxalate in medium doses may be administered. But if the pain in the epigastrium, the nausea and the vomiting should still continue, drop doses of phenol may be given, and in very severe cases doses of 1/10 grain of cocain or ½ grain doses of extract of opium may be employed.

For the headache and fever an ice-cap was a sufficient remedy in my hands; still men of such wide experience as Dr. Bandelier of Görbersdorf and Dr. Ropke of Melsungen go further, and advise the use of phenacetin and migrainon and in very severe cases pyramidon in repeated doses of 1½ grains. These antipyretics, however, should not be given until the temperature shows a tendency to decline.

For the toxemia proper, eliminatives should not be forgotten; a five-grain dose of calomel should be administered as soon as temperature reaches 102 F., or as soon as the specific reaction has been established and the foci of the disease located. Treatment should never be begun before the specific and focal reaction have been established, as the fever and other toxemic symptoms are not sufficient evidence of the presence of a tuberculous process. It must be remembered that toxemic symptoms may be manifested in cases in which no tuberculous process is present, and if fever has reached 102 F., with no manifestation of the evidence of a specific focal reaction, the diagnosis should be considered as a negative one, and the treatment of the reaction as a toxemia in general should be begun at once as outlined above; with it, stimulation by strychnin should be employed.

In reactions from therapeutic doses of tuberculin the indications are different. The reactions are usually milder, as some immunity to tuberculin has been established by the preceding treatment; still there may be sometimes violent reactions. The eliminative treatment, which is the most important in the reaction from the diagnostic use of tuberculin, should be here entirely omitted, as with the elimination of the toxins the autoprotective elements will also be removed from the system, and the patient will have another reaction from the next dose, not only when slightly increased or repeated, but even when diminished. Instead of eliminatives, stimulants are here strongly indicated and are of paramount importance. The stimulants not only support the heart and stimulate the nervous system, but they also stimulate the adrenal system, and thereby assist in the richer and more rapid production of autoprotective elements, which in themselves cut the reaction much shorter.

I used eliminatives principally in my first experiences with the reactions, and the result was that the succeeding doses had to be decreased; and not only this, but the rate of progression as well. Instead of going on with an increase of 50 per cent. the increase had to be dropped to 20 per cent., and even to 10 per cent. This certainly delayed the process of immunization to a great extent. Since eliminatives have been discarded in reaction from therapeutic doses and stimulants relied on, not only did I not have to reduce the dose, but I could slightly increase it even after a reaction, and after three slight increases I would return to the former progression, increasing the succeeding doses by 50 per cent. and 25 per cent., according to the size of the doses administered.

84 Academy street.

SARCOMA OF KIDNEY

HERMANN B. GESSNER, M.D.
NEW ORLEANS

Because of the small number of patients with sarcoma of the kidney who have survived operation three years, I think it worth while to publish the following additional case:

Harold B., aged 2½, of excellent family history, was found in May, 1906, to have an abdominal tumor on the right side; this extended from the costal arch to near the brim of the pelvis, measuring about 10 by 5 inches; it was movable from side to side. Nothing abnormal was detected in the urine.

About ten days after the discovery of the growth I was called to the boy's home, Mansura, La., where, on May 16, I operated with the assistance of Drs. E. Regard, T. A. Roy and G. L. Drouin. The usual technic of transperitoneal nephrectomy was followed. Recovery was uneventful.

The tumor was submitted to Dr. O. L. Pothier, pathologist of the Charity Hospital, a summary of whose report follows:

Description of gross specimen: This is a large, round tumor involving part of the kidney; measures 11 by 9 cm.; is of a white color on section, rather juicy and gelatinous. A portion of kidney not involved. Pelvis and ureter seem free from infiltration.

Gross pathologic diagnosis: sarcoma. Microscopic diagnosis: Myxosarcoma.

When last seen, Oct. 6, 1909, the boy was in excellent health, nearly three years and five months after the nephrectomy.

1209 Maison Blanche Building.

Immunization.—Typhoid immunization by Wright's vaccine has not yet reached the stage where it can be said to be of practical use, except in armies where the men are under the control of their superiors. The reaction from the inoculation is sometimes severe, and the inoculations have to be repeated several times for the immunity to be of sufficient duration to make its employment worth while.—S. Harris, in *Southern Medical Journal.*

THE TRANSMISSION OF ACUTE POLIOMYELITIS TO MONKEYS [*]

SIMON FLEXNER, M.D., AND PAUL A. LEWIS, M.D.
NEW YORK

Poliomyelitis or infantile paralysis prevailed in epidemic form along the Atlantic seaboard in the summer of 1907. About that time it appeared in Austria and Germany. In the summer of 1909 the disease reappeared as a focalized epidemic in Greater New York and had, by that time, spread widely throughout the United States and Europe.

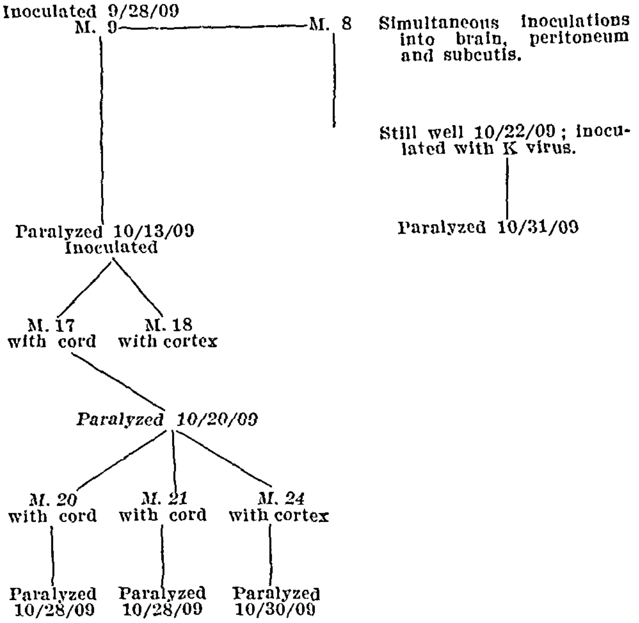
The cause and mode of dissemination of the disease are unknown; and hence there exists no intelligent means of prevention. While the severity and fatality of the disease fluctuate widely, its effects are always so disastrous as to make it of the highest medical and social importance.

In spite of many thorough studies of the spontaneous disease in man, our knowledge of causation and prevention has not been advanced; it may be hoped that it will be advanced by the opportunity for fundamental study opened up by the successful transmission of the disease to lower animals.

In May, 1909, Landsteiner and Popper[1] published a report of two successful inoculations of monkeys with the spinal cord obtained from two fatal cases of poliomyelitis. The injections were made into the peritoneal cavity. One monkey became paralyzed in the lower extremities and died on the sixth day after inoculation; the other was killed on the nineteenth day. In both, lesions of the spinal cord similar to those in man existed. The disease could not be transferred to other monkeys. Our efforts to transmit the disease to lower animals were first made in 1907, at which time cerebrospinal fluid obtained by lumbar puncture was introduced into the spinal canal and peritoneal cavity in monkeys and other animals. We were limited to this fluid, as we did not secure material from a fatal case. The results were negative. Since September of this year we have secured suitable material from two cases of poliomyelitis in human beings. For the material from one we are indebted to Dr. Ridner, of Lake Hopatcong, N. J., and for the other to Dr. Le Grand Kerr, of Brooklyn.

Dr. Ridner's patient died on the fifth or sixth day after the appearance of the paralysis, which affected the lower extremities. The lumbar cord was obtained in a sterile condition, twenty-six hours after death, and a portion was inoculated into monkeys about twelve hours later.[2] The entire spinal cord was obtained from Dr. Kerr's case twelve hours after death, and inoculation into monkeys was made four hours later. In Dr. Kerr's case, in which death occurred on the fourth day, the lesions were diffuse throughout the cord. Paralysis had been very extensive. The gross and microscopic lesions were characteristic in both cases.

In order to favor the transmission of the disease to monkeys, the brain was chosen as the site of inoculation, which was made under ether anesthesia through a small trephine opening. After the operation, the animals were at once lively and normal. The injected material consisted at first of emulsions in salt solution of the spinal cord from the children and later of emulsions of the spinal cord of monkeys developing the paralysis. An effort was made to enrich the inoculating material by incubating it in celloidin sacs placed in the peritoneal cavity of monkeys and rabbits. At the present time we wish merely to record the series of successful experiments which we have conducted with the spinal cord obtained from the case of Dr. Ridner and designated M. A. The accompanying chart will show at a glance what has been accomplished up to date with the M. A. virus. We may mention here that the microscopic study of the spinal cord from the affected monkeys has shown, without exception, lesions similar to those of poliomyelitis in man. In some cases the lesions in the cords of monkeys could be detected by the naked eye.



Transmission of M. A. virus through monkeys. The virus is being transmitted further. The abbreviation M. signifies monkey.

The chart shows unmistakably that by employing the intracranial method of inoculation it is possible to carry the virus of epidemic poliomyelitis successfully through a series of monkeys. It is highly probable that the transmission may be carried on indefinitely. Should this expectation prove well founded, the outlook for securing a fuller understanding of the nature of this disease will be immeasurably improved.

It should incidentally be mentioned that not only is the spinal cord active, but the cortex of the brain also (Monkey 24). A delayed or unsuccessful inoculation may be converted into a successful infection by reinoculation with an active virus (Monkey 8).

It has long been supposed that epidemic poliomyelitis is an infectious disease. Its mode of spread certainly points to that view. A single successful inoculation with human virus could not establish the view, because the result might be due to a transferred toxic body. But now that successive transfer of the active agent of the disease has been accomplished, any doubt of its infectious origin can hardly be longer maintained.

The experiments with the virus of poliomyelitis are being continued, as is the search for additional evidences of its micro-organismal nature.[3] The complete protocols of the experiments here summarized and still other experiments will be published in a forthcoming issue of the *Journal of Experimental Medicine*.

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[*] From the Laboratories of the Rockefeller Institute for Medical Research.

[1] Landsteiner and Popper: Ztschr. f. Immunitätsforsch., Orig., 1909, ii, 377.

[2] No reference will be made in this preliminary report to other varieties of animals employed.

[3] A thorough search for bacteria by cultural and other methods was made in 1907, and again this year, but none that could be viewed as the causative agent has been discovered.

RUPTURED EXTRA-UTERINE PREGNANCY

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KANSAS CITY, MO.

This case is deemed worthy of record for four essential reasons:

1. It emphasizes in a most striking manner the importance of delaying operation until reaction from shock has occurred in critical cases of ruptured tubal pregnancy.

2. It calls attention to the fact that simple means can often be utilized to promote this reaction.

3. It presents an example of the grave complications that may be encountered in operating in such cases.

4. It further illustrates the wisdom of not irrigating or flushing out the peritoneum with water or salt solution in severe hemorrhage, reliance being placed simply on the non-toxic properties of serum, after the rapid removal of the blood-clots.

History.—The patient, Mrs. G., aged 28, the mother of one child 7 years old, had had one miscarriage after exertion four years before the present illness. On March 3, 1909, I was hastily called by the attending physician (Dr. George C. Mosher) in the evening. While quietly seated at the table two hours before, the patient had been suddenly seized with great pain in the abdomen, and immediately fainted. No pulse was perceptible at the wrist. The patient was barely conscious and almost exsanguinated. Cold perspiration covered the face and her appearance was that of one moribund. The family fountain-syringe was at once scalded out; the tip of a glass pipette used in filling a fountain pen was boiled, also one dram of salt and a few pocket instruments. Two quarts of hastily made physiologic salt solution were thrown into the basilic vein of the arm. Strychnin and atropin were given hypodermically. Improvement was immediate. After twelve hours, normal saline enemas were begun every four hours. Nothing could be retained by the mouth on account of the great nausea. The patient continued to improve in the quality and frequency of the pulse for about eighteen hours. Then evidence of fresh hemorrhage appeared, produced probably by a movement of the bowels, the result of an improperly administered nutrient enema. The pulse rose from 108 to 118, and "air-hunger" and restlessness returned.

Operation.—Immediate operation was now decided on, as the pulse, while rapid, was of very fair quality. Operation was performed at the house to avoid the risk of additional hemorrhage incident to the patient's removal to a hospital. Incision was made in median line. An enormous amount of free blood and clots were encountered. This was rapidly sponged away. Clamps at once secured the blood-supply of the gestation sac. This was about the size of an orange, and was in reality a left tubal abortion; the fœtus of about one month had been expelled and lay in the abdominal cavity. While there was free and active bleeding at the time of operation, it apparently was the result of the movement of the intestines just prior to operation. After the removal of the sac, blood-clots, and free blood, an examination of the pelvis was made and an enormous cyst of the broad ligament encountered, together with a large hydro- and hematosalpinx of the right tube. The cyst occupied the right broad ligament and completely filled the pelvis. It was probably of several years' standing. Its removal was difficult because of the broad attachment of the base and right side of the cyst to the pelvic floor. The abdomen was closed, with drainage, and without abdominal flushing. During the operation the pulse became imperceptible and one pint of physiologic salt was given by hypodermoclysis and one quart was placed in the rectum while the patient was still in the Trendelenburg position.

Recovery was rapid and uneventful.

Referring briefly again to the treatment of these cases, as exemplified in this report, I wish to emphasize, first, the importance of delayed operation. I am confident many women with ruptured tubal pregnancy have lost their lives because of the wide-spread belief that immediate operation is always necessary in such cases, irrespective of the general condition of the patient. Formerly we have violated every tenet and principle of common sense and surgical judgment in submitting these profoundly shocked patients to the additional depression of an immediate operation.

Nature's method of stopping hemorrhage is clot formation, aided by absolute rest and a depressed circulation even to the point of syncope. Hunter Robb, Simpson and others have recently shown that such patients rarely primarily bleed to death. The latter is convinced that if death is to occur from hemorrhage it will result long before any operation for its relief can be undertaken.

My own experience causes me to hold the same opinion. In the case reported, active bleeding had entirely ceased once and had recurred, I am convinced, only as the result of the movement of the intestines. Also some recent hemorrhage in such cases is undoubtedly produced by the scrubbing preliminary to operation.

It is also evident in many of them (Hunter Robb) that active bleeding during operation is due to the operative manipulation at the time and occurs after the abdomen has been opened.

The second point emphasized is the use of the pipette and fountain syringe for giving intravenous infusion. Such articles can nearly always be found in any home and can be prepared without delay. On several occasions in conditions of great shock I have found their use a life-saving measure, even in cases in which the circulation was so slow that hypodermoclysis was useless.

Every abdominal surgeon of experience has had the fact again and again impressed on him that one cannot tell what is in an abdomen until one looks. The large cyst with its tubal complication in this case furnishes an impressive example. Prior to operation this mass was thought to be the gestation sac. In addition to the use of saline by hyperdermoclysis in this case, the rectum was filled with the same solution (after the manner of Dr. John C. Clark) during the operation, and this measure, I am confident, contributed in no small measure to the fortunate issue.

There is no department of surgery, I believe, that has undergone such a radical evolution in the past ten years as the treatment of peritoneal conditions. Since Murphy's epoch-making paper on the "Treatment of Peritonitis," we have awakened to the realization that lymph means protection rather than infection, and that to remove it whether by gauze or flushing means to remove Nature's protective barrier and to thus open the way for infection.

The practice of flushing the abdomen with quantities of water or salt solution is a thing of the past—certainly in cases of simple hemorrhage—and must take its place in history along with our theories of blood-letting, humoral diseases and "spontaneous generation" of infection.

603 Bryant Building.

Prevention of Infant Mortality.—Every influence which tends to decrease maternal nursing tends to increase infant mortality. For our purposes then it is necessary to seek out and to remove every influence which acts to prevent mothers from nursing their infants, whether that influence be sickness and fatigue; the pressure of poverty, necessitating that the mother return to work at the earliest possible moment; the demands of society; the advice of the ignorant, meddling, busybody neighbor; or whatever other cause may obtain.—J. M. Connolly in *Hygiene and Physical Education.*

ERYSIPELAS AND MENINGITIS IN AN INFANT TREATED WITH HEXAMETHYLENAMIN: RECOVERY

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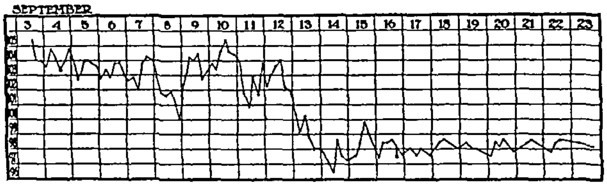
BERKELEY, CAL.

That hexamethylenamin manifests antiseptic properties in the meningeal fluid seems to have been fully demonstrated. Crowe[1] reports a case of cerebrospinal fistula in which, at the suggestion of Dr. Cushing, hexamethylenamin was administered for its antiseptic effect and the patient recovered.

By a modification of Hehner's test it was found by lumbar puncture that hexamethylenamin is invariably present in the cerebrospinal fluid in from one-half to one hour following its administration.

Having this recent discovery in mind, I applied it in the following case:

Betty O., aged 19 months, was first seen August 30, with a small abrasion on the left leg, having the appearance of a bite which had been aggravated by scratching. The following day an erythema occurred, spreading rapidly up the leg and thigh and accompanied by a temperature of 103.5 F. The erysipelatous character of the eruption soon became unmistakable, spreading up the lumbar and dorsal regions crossing over to the right leg and thigh.



Temperature chart of infant, 19 months old, with erysipelas and meningitis, treated with hexamethylenamin.

September 3 (three days later) marked cerebral symptoms developed, the temperature rising to 105.5, and well-pronounced opisthotonos was noted, with rigidity of the cervical region. The pupils were enormously dilated. The picture was a clear one, and Dr. Charles A. Dukes of Oakland was called in consultation, who verified the diagnosis.

Recalling Dr. Crowe's experiment, I ordered hexamethylenamin in one-grain doses every four hours. Its administration was begun September 4, and within twelve hours, as will be seen in the chart, the temperature began to fall.

The spinal rigidity gradually disappeared, and while the erysipelatous process was somewhat prolonged, the meningeal symptoms became less apparent daily until now, October 1, the child, while weak, is keenly alive to its surroundings and walks about the room without assistance.

To us who are accustomed to fatal results in meningitis this case has been thought worthy of mention in its relation to the administration of hexamethylenamin.

Hole-Traps for Mosquitoes.—A French army officer in Africa noticed that numbers of mosquitoes issued toward sunset from the crab-holes in the ground. The only empty ones were those which permitted the entrance of sunshine or the breeze. He consequently made a number of similar holes to attract the mosquitoes and destroy them. The holes must be slanting, forming an acute angle with the surface, nearly half a yard deep, and with a narrow rectangular opening about an inch in diameter, opening directly opposite the prevailing breeze and never getting a ray of sunlight at any moment of the day. The mosquitoes seek these holes after 8 a. m. The success of these hole-traps was so striking that he has made a somewhat similar wooden trap for use indoors.—*Hygiène Générale et Appliqué*, iv, 1909, p. 1511.

Therapeutics

DIARRHEA

It is not proposed in this article to consider the etiology or treatment of a chronic diarrhea that is due to the various forms of enteritis, colitis, ulceration, tuberculosis of the bowels, or of a diarrhea that is caused by or concomitant with chronic organic disease.

A chronic looseness of the bowels cannot be satisfactorily or successfully treated unless its cause has been determined, and a splendid dissertation on the etiology of loose bowel movements was presented by Dr. A. D. Blackader, of Montreal, at the annual meeting of the American Therapeutic Society, held at New Haven in May, and whose paper appears in the *American Journal of the Medical Sciences,* October, 1909. Two or three daily, formed movements of the bowels in a person who has long had this habit cannot be considered pathologic, but unformed, watery movements, even if not more than one or two a day, must be considered abnormal, and such a character of the movements may be caused by a disordered normal function or by an actual pathologic condition.

Blackader tabulates the causes of looseness of the bowels as: "First, excessive propulsive peristaltic action. Second, an abnormal increase in the amount of secretion from the mucous membrane and secreting glands of the canal. Third, defective absorption. These may work in a vicious cycle.

"Increased peristalsis prevents absorption, and is often associated with increased secretion; increased secretion stimulates peristalsis and interferes with absorption; a defective absorption stimulates peristalsis, and is generally associated with some fault in secretion."

Peristalsis is caused by both mechanical and chemical irritation, and the more indigestible and the coarser the food eaten, the more peristalsis will develop. Stomach indigestion, allowing the development of a hyperacidity, or the expulsion of the stomach contents into the duodenum too rapidly or before the peptic digestion is completed, will stimulate peristalsis. Such maldigestion in the stomach will soon produce an irritability and subacute inflammation of the duodenum. This irritability also reflexly causes increased peristalsis.

Blackader well calls attention to the recognized, but often forgotten, nervous element in chronic looseness of the bowels. Nervousness, hysterical excitement, or worry can cause several or repeated watery intestinal evacuations. Fatigue, mental and physical, may cause incomplete normal absorption of the fluid contents of the colon, and the resulting movements will be watery.

Blackader thinks that an excessive amount of normal intestinal secretion is a factor in loose bowel movements. Of course, it is impossible, under the varying requirements to digest varying foods, to determine the exact amount of digestive secretion the stomach, liver, pancreas, and intestinal glands should produce, but normally these secretions are probably sufficient, and perhaps in excess of the amount required. But as the physiologic chemists have shown that one secretion stimulates another secretion, and that the products of one digestion stimulate other glands to produce their secretion, it is probable that over-secretion in one organ may cause disturbance of another. However, it is probable that excessive secretion of digestive fluids is a doubtful cause of watery diarrhea.

Any character of the contents of the intestines that causes the fluids to be unprepared for perfect absorption, or that irritates the mucous membrane of the intestine sufficiently to cause a condition that might be inimical to normal absorption would, of course, be a cause of watery movements.

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[1] Crowe: Johns Hopkins Hosp Bull., April, 1909.

Certain chemical substances, notably the saline cathartics, tend to cause an excretion of water into the intestines, and the result from gravity alone is watery movements. Certain bacteria also have the power to cause osmosis of water into the intestines and an increased peristalsis, and until such bacteria are evacuated or eradicated the condition will continue.

Certain bacteria normally in the intestine seem necessary for perfect intestinal functions and processes, and they may even be necessary to combat abnormal or pathogenic bacteria that may pass unharmed through the stomach. But even these normally found microorganisms by varying conditions of maldigestion may assume a pathologic rôle, and looseness of the bowels be the first notification of such a disturbance. Probably no one cause is so prominent in allowing bacteria normally in the intestine to cause abnormal symptoms, as serious stomachic indigestion or an imperfect gastric juice.

Another frequent cause of looseness of the bowels is seen in serious organic trouble, most frequently from kidney and liver lesions, caused perhaps by an increased activity of the columnar cells lining the mucous membrane of the lower intestinal walls. These are always excreting cells, but they physiologically assume extra work if the kidneys and liver are unable to function normally. Before attempting to inhibit or stop watery diarrhea, it should be positively determined that such watery excretions are not needed to protect the blood from toxemia. In other words, serious organic lesions should be excluded.

Also, before beginning treatment for chronic diarrhea, not only must inflammatory lesions be excluded, if possible, but the evacuations should be studied macroscopically, and chemically and bacteriologically if the patient does not quickly improve, to determine what intestinal function is at fault and what food is maldigested or acts as an irritant, and hence should be avoided. Imperfect bile secretion should, of course, diminish the amount of fats allowed, and imperfect pancreatic secretion should cause the fats ingested to be reduced to a minimum.

Besides actual circulatory disturbances causing watery diarrhea, a not infrequent cause seems to be vasomotor disturbances or "vasomotor ataxia." In other words, an insufficient surface circulation, insufficient perspiration, and sensations of cold and chilliness may cause what has been termed intestinal sweating, and the patient has, on arising in the morning, one or more large watery stools. This may persist on any diet; in other words, it can rarely be cured by dietetic treatment.

It having been determined that the diarrhea is not due to the conditions mentioned in the first paragraph of this article, the treatment of a chronic looseness of the bowels may be considered as (1) physical, (2) dietary, (3) medicinal.

1. The physical treatment may be subdivided into: (a) Rest, either temporarily absolute, or, certainly, after each meal; (b) change of climate; (c) relief from business or household cares, which often can be accomplished only by sanatorium treatment; (d) the promotion of normal activity of the skin, accomplished by baths, friction, and electricity; (e) increased circulation in the muscles; brought about by massage, passive motion, and, later, by various gymnastic exercises, especially if the patient leads a sedentary life.

These physical treatments need only to be mentioned, and do not require description. Such treatment alone will often cure a diarrhea due to hysteria, neurasthenia, and vasomotor ataxia.

2. A careful study of the individual on ordinary, and then on limited diets, will often determine that there are one or more articles of food which increase indigestion and increase the tendency to loose movements of the bowels. Such articles of food must, of course, be, temporarily at least, prohibited. However, under most circumstances it is often best to put a patient on absolute milk diet for a week, and then gradually try the addition of different foods to the diet. Occasionally a strictly milk diet will not be tolerated; often it is advisable to add some alkali, as vichy or lime water, to each glass of milk. Occasionally it is advisable to boil the milk, and sometimes it may be necessary to peptonize it. This, however, is rarely needed. If the patient is an adult and is placed on an absolute milk diet, he should ordinarily not attend to his usual duties, but should be at rest. As above intimated, absolute rest in bed for from one to two weeks. on a corrected diet, will often start the patient toward recovery.

The first addition to the milk diet should be toast, eggs and raw scraped or chopped beef, or, if such uncooked meat is very disagreeable to the patient, the chopped beef may be slightly broiled. The future increase in the diet should be gradual and carefully selected for the individual patient.

3. Perhaps the most useful of all drugs in the treatment of this condition is bismuth, and there is no preparation of bismuth more satisfactory than the subnitrate. The two methods of employing this drug are either by very large doses, given once or twice a day, viz., from 2 to 3 grams (30 to 45 grains) at a dose, or by administering a 0.30 gram (5 grain) tablet, every three hours. If bismuth is used, it should not be continued for more than a week without intermission, as it tends to form scybalous masses in the colon. It should also be carefully decided, during its long administration, if the movements of the bowels are complete and satisfactory, as a diarrhea may still leave masses of this salt in the intestines.

An antiseptic, such as phenyl salicylate (salol) may be given with benefit in doses of 0.30 gram (5 grains) three or four times a day. It may be combined with the bismuth, if desired. It should not be continued, however, more than a week, and if there is any albuminuria it should not be administered at all.

In some instances bicarbonate of soda seems valuable, and the dose would be 0.50 gram (7½ grains) three times a day. Large doses of an alkali are rarely advisable. Sometimes the opposite is indicated, viz., dilute hydrochloric acid. This is especially advisable if it has been determined by examination of the contents of the stomach, or [illegible] the hydrochloric acid is insufficient. [illegible] acid in a dose of ten drops, in water, after meals, will certainly often aid stomach digestion and prevent diarrhea.

The most valuable astringent for the intestines, if one is needed, is a preparation of tannic acid. None of the other vegetable astringents act so well, and most of them are very disagreeable to take and cause stomach indigestion. Tannic acid as such is also irritant to the stomach and, therefore, inadvisable. One of the many organic combinations of tannic acid seems to be the best manner to administer this drug, and the dose of most of them is about 0.50 gram (7½ grains), administered in capsule if desired, and given three or four times in twenty-four hours. These organic preparations do not cause stomach indigestion, and give up the tannic acid gradually throughout the intestines, and the astringent action is the one desired.

Quinin seems to have many times a specific action in the intestine, not only as an antiseptic and tonic, but really seems often to alone inhibit looseness of the bowels. The dose should be fair sized, but not enough to cause disagreeable head symptoms.

As most of these patients are anemic, and as iron is an astringent, iron is certainly indicated in almost every instance. The best preparation is naturally an astringent one, and the sulphate of iron, in capsule, in a dose of 0.20 to 0.25 gram (3 to 4 grains), three times a day, after meals, is the preparation that is the most valuable.

New and Nonofficial Remedies

SINCE THE PUBLICATION OF THE BOOK "NEW AND NONOFFICIAL REMEDIES, 1909," THE FOLLOWING ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK ARE ASKED FOR.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(Continued from page 1563)

SULPHURATED POTASH — Potassa Sulphurata — Kalium sulphuratum crudum—Hepar Sulfuris.—Sulphurated potash is a mixture of salts of potassium, of which the chief are potassium sulphides (Br. Pharm., p. 259).

It is prepared as follows: Mix the powdered and dried potassium carbonate thoroughly with the sublimed sulphur, and gradually heat the mixture, in a covered crucible, which should be only about half filled with it, until the mass ceases to foam and is in a state of perfect fusion. Then pour the fused mass on a cold marble slab, and, after it has cooled, break it into pieces, and keep it in a well-stoppered bottle (U. S. P., 1890, p. 313).

When freshly prepared, sulphurated potassa forms irregular pieces of a liver-brown color, which, by exposure to the air, gradually absorb moisture, oxygen and carbon dioxide, and change to a greenish-yellow and finally to a gray mass containing potassium carbonate, thiosulphate and sulphate. The compound has a faint odor of hydrogen sulphide, and a bitter, alkaline taste.

Soluble in 2 parts of water at 15° C. (59° F.), with the exception of a small residue. Alcohol dissolves only the potassium sulphide, leaving the other constituents (thiosulphate and sulphate) undissolved.

The aqueous solution (1 in 10) is of an orange-yellow color, is strongly alkaline to litmus paper, and gives off the odor of hydrogen sulphide.

On adding to it acetic acid in slight excess, an abundance of hydrogen sulphide is evolved, while sulphur is precipitated.

In this liquid, after filtration, sodium bitartrate test solution produces an abundant, white, crystalline precipitate (U. S. P., 1890, p. 213).

On triturating 1 Gm. of sulphurated potassa with 1 Gm. of crystallized copper sulphate and 10 Cc. of water, and filtering, the filtrate should remain unaffected by hydrogen sulphide test solution, corresponding to at least 12.85 per cent. of sulphur combined with potassium to form sulphide (U. S. P., 1890, p. 313).

Actions and Uses.—Externally sulphurated potash acts as an irritant and softens the horny layers of the skin, acting especially on the hairs. Internally, it is a gastrointestinal irritant and is believed to be an alterative. In some cases it has produced severe poisoning from the amount of hydrogen sulphide evolved. It is employed externally[1] as a local irritant in various skin diseases and as a parasiticide.

ETHYL BROMIDE—Aethylis Bromidum.—Aether Bromatus (Pharm. Germanica, edit. 4; Pharm. Belgica, edit. 4; Pharm. Helvetica, edit. 4). Aethylium bromatum (Pharm. Française, 1908).

Ethyl bromide, C_2H_5Br, is the ethyl ester of hydrobromic acid, containing approximately 1 per cent. ethyl alcohol.

Ethyl bromide is a colorless, strongly refractive, easily volatile liquid, having a pleasant ethereal odor. It is insoluble in water, but readily soluble in acohol and in ether. It boils at from 38° to 40° C (101° to 104° F). Its specific gravity at 15° is 1.453 to 1.457 (Pharm. Germanica).

It is stable when pure but when contaminated with ethyl iodide it becomes colored when exposed to light. It burns with difficulty. It is very difficultly saponified by potassium hydroxide and it is not attacked by sulphuric or nitric acids. Silver nitrate gradually precipitates silver bromide (Pharm. Francaise 1908). If a mixture of 1 Cc. ethyl bromide, 5 Cc. alcohol and 10 drops of (15 per cent.) sodium hydroxide solution is heated to boiling, cooled, acidified with dilute sulphuric acid then shaken with chloroform and chlorine water added a brown coloration will be produced in the chloroform layer. If equal volumes of ethyl bromide and sulphuric acid are shaken together in a bottle previously rinsed with sulphuric acid and closed with a glass stopper, the acid should not be colored yellow within an hour. After shaking equal volumes of ethyl bromide and water, no change of volume should occur in the two liquids, the water separated from the ethyl bromide should not have an acid reaction nor should it become turbid immediately on the addition of a drop of silver nitrate solution (Pharm. Helvetica).

When a small portion is evaporated from a porcelain plate by causing it to flow to and fro over the surface little or no foreign odor is yielded as the last portions pass off, and the plate is covered with a slight deposit of moisture.

1 Cc. of ethyl bromide mixed with 3 drops of anilin and 2 Cc. of alcoholic solution of potassium hydroxide should not give off the odor of isonitrile even after warming. (Absence of chloroform) (Pharm. Belgica).

About 1 Gm. of ethyl bromide accurately weighed added to 30 Cc. of 80 per cent. alcohol containing 2 Gm. silver nitrate will precipitate, after several hours, silver bromide, which when washed and dried should weigh 1.72 for each Gm. ethyl bromide used (Pharm. Francaise).

Action and Uses.—Ethyl bromide is a rapid anesthetic, acting much like chloroform. The anesthesia is quickly and pleasantly induced and the recovery is rapid, but subsequently the patient may have general mild depression. Pain is abolished before consciousness. The respiration is paralyzed at about the same time as the reflexes, so that the zone of safety is very narrow. Tetanic spasms have occurred. Deaths were formerly attributed to impurities, but several have occurred when a pure article was given. It has been recommended for short operations in obstetrics, gynecology and minor surgery, but is not to be used for long operations. It must be regarded as a very dangerous agent in inexperienced hands.

Dosage.—3 Cc. to 12 Cc. (45 minims to 3 fluidrams) is sufficient to induce anesthesia. It should be administered rapidly with little or no air. The administration requires from 20 to 40 seconds; the anesthesia lasts about two minutes. The dose for children should not exceed 1 Cc. per year of age.

It should be protected from the light and a bottle once opened should be used at once as it deteriorates rapidly. (To be preserved carefully in small, opaque bottle containing not more than 50Cc. Pharm. Helvetica edit. 4.) It should not be confounded with ethylene bromide, which is said to be very poisonous. The Sp. Gr. of ethylene bromide is 2.179 while that of ethyl bromide is about 1.45.

(To be continued)

Serotherapy of Metrorrhagia—A Correction.—The bad habit of one journal's "borrowing" an article from another journal without any credit being given to the source, or anything to show that the article is not original, is responsible for a blunder into which THE JOURNAL was innocently led in an abstract of an article by E. Nuñez, appearing in the June number of the *Semana Medica*, a Buenos Aires exchange. It commenced with the words: "It is very common in our country to encounter, etc." THE JOURNAL naturally supposed the country in question was Argentina, but found later that the article was "borrowed" entire from the *Revista de Medicina y Cirugia*, of Havana, Cuba, where Dr. Nuñez is professor of gynecology. He is also on the editorial staff of our Havana exchange, and his article appeared in its issue of April 10, 1909. The country referred to is therefore Cuba, not Argentina, as erroneously stated in the abstract of THE JOURNAL on page 1401.

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[1] In view of the uncertainty of the composition of sulphurated potash and of the fact that it sometimes exerts a poisonous action, it is deemed suitable only for external use

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[*For other information see second page following reading matter*]

SATURDAY, NOVEMBER 13, 1909

CESARE LOMBROSO

There are some men whose task it is to gather, to grind and to sift facts for scientific pabulum; and there are others whose function it is to furnish the leaven. Of the latter class was Cesare Lombroso, who died last month within a few days of his seventy-third birthday.

Lombroso was born in 1836 of Venetian parents. Like most men of genius, he displayed remarkable intellectual power and originality long before his majority, and to the end of his life his mind was in constant ferment with new ideas. His youthful studies ranged over archeology, the natural sciences, poetry and history, and a natural bent carried him into the ranks of students of medicine. In 1859 he became a soldier and later an army surgeon. From the year 1862, while instructor in mental diseases at the University of Pavia, he conducted clinical investigations of insanity and collected materials for a museum. As director of the hospital for the insane at Pesaro he improved the methods and established a journal written and managed by the insane. He returned to Pavia after a time and continued his precise methods of studying the insane, using and even inventing modern instruments for his purpose. He was stimulated and guided by the genius of Broca and Virchow, and the studies of Darwin seem to have suggested his atavistic interpretation of crime. It was in 1859 that the essential ideas of his great work, "L'Uomo Delinquente," came to his mind, but not until 1870, during his examination of the skull of a brigand, that he applied the theory of atavism in explanation. After several years of labor in studying the characteristics of prisoners in Italian prisons he published some of the results in 1876. This epoch-making work has been revised and fundamentally altered in succeeding editions. His book on "The Man of Genius" saw the light in 1889. In his later years Lombroso was a professor of forensic medicine and psychiatry in the University of Turin. His personal appearance, his oddities of manner, his kindliness are topics for gossip or serious biographies; his place and service as a man of science are of chief interest here.

Lombroso approached the study of the criminal as a physician and anthropologist, and it was natural that he should lay great emphasis on biologic factors. Too great praise cannot be given him for his minute and painstaking collection of observations of the anatomic, physiologic and psychical characteristics of offenders. He compelled the world to study the antisocial man with all the methods and instruments invented by modern science. He made it forever impossible to return to the traditional legal attitude toward the criminal. He sought in the phenomena of life, and not in ancient decisions framed in the dim twilight of history, the real facts with which penal law and criminal courts and correctional institutions have to deal. With Lombroso's metaphysical system we need not be concerned; he left the controversy over fate and freedom where it was before. His attempt to identify the "criminal born" with the primitive savage was only partly successful, but it brought one element of explanation into prominence, and no student can henceforth ignore atavism as a probable factor in causation. When the fierce arrows of criticism drove him from his too narrow ground he candidly admitted other factors, as arrested development and degradation of tissue and hence of character. As he poured out monographs, articles and volumes, his own mind traversed wider fields of observation and reflection; his anthropologic discoveries revealed the necessity of studying normal types, and thus he passed over to the ranks of the sociologists. His later writings emphasized the causal factors found in the perverting influences of unfit dwellings, occupational diseases, alcoholism, vice, irrational legislation, defects in penal law, courts and prisons. Among the important services to medicine and humanity which Lombroso rendered toward the end of his life may be reckoned his valuable studies on pellagra and its causes.

Perhaps it is too early to assign Lombroso's true place in history. Certain great lawyers, especially in Germany, deny that he and his pupils have added any knowledge of value to a lawyer. Mantegazza declared that he did not possess any of the qualities of a scientific investigator. Colojanni compares Lombroso's indiscriminate collection of facts to the famous order attributed to Charles IX or some persecuting ecclesiastic: "Kill them all; God will know His own" (Ellis). Perhaps the man of genius is too quickly enchanted by the brilliance of his hypothesis, is invariably urged to establish it at any cost, and is not quite patient enough to wait and to compare facts of a different order.

Grant all that is reasonable to such criticisms, it remains true that Lombroso, by sheer force of scientific investigation and unwearied activity, revolutionized the study of abnormal man, and especially the criminal, and the social treatment of crime will be improved in consequence of his discoveries and even his speculations.

In America these speculations have been received generally in a critical spirit, and have obtained no important following. The criticisms of F. H. Wines and others have had a sobering effect and secured a balanced judgment and wholesome suspense. But the scientific observation of the criminal himself has been quickened, and even in law schools has begun to influence conservative thought. It is now more frequently admitted than formerly that the nature and social attitude of the offender should be made the center of interest rather than statutes made in ages of ignorance and decisions pronounced before the science of anthropology was born. The new society known as the Institute of Criminal Law and Criminology, founded by open-minded lawyers of unquestioned standing and training, bears witness to the practical value of these studies with which the name of Lombroso will ever be indissolubly linked.

Von Liszt[1] may be taken as a type of the progressive jurists who recognize the necessity of individual and social study of crime causes, who reject the notion, on which Lombroso sometimes laid so much stress, that the criminal born constitute, as it were, a separate variety or type of humanity. Von Hamel[2] recognizes the importance of the Italian investigations, but questions the finality of their interpretations and recommendations. No important systematic work on criminology can hereafter ignore the significance of Lombroso's studies. The career of Lombroso shows that the social control of antisocial forces must command the united efforts of lawyers, physicians, anthropologists and sociologists in order to be effective.

THE MEDICAL PROFESSION AND THE PHARMACOPEIA

A thoroughly up-to-date Pharmacopeia—one which will truly reflect the best medical practice of the present time—will contribute more to sane drug therapeutics than any other one thing. It is a question, therefore, that should be considered seriously and without further delay, since the time for the convention that is to decide the policy on which the next revision is to be made and who shall be in control is rapidly approaching. In The Journal last week,[3] Sollmann put the question squarely before the medical profession: "If the Pharmacopeia is not and cannot be made practically important to the physicians, then let us abandon it altogether." It is needless to say that not many physicians would seriously entertain the suggestion of abandoning the Pharmacopeia; yet the attitude of indifference shown by the profession in general in connection with the last pharmacopeial convention was almost equivalent to abandoning it —so far as medical men were concerned.

In order to make the Pharmacopeia a more useful book, however, it is necessary to break what Sollmann so aptly terms a "vicious circle": "Physicians take no interest in pharmacopeial revision, because the Pharmacopeia does not represent their vital interest; and the Pharmacopeia does not represent their interest because they take no interest in its revision." The question of vital importance now is how can this vicious circle be broken? Physicians who have given the matter serious thought believe that important changes are required; it is necessary, therefore, that the delegates of the medical profession to the next convention should inform themselves specifically as to the needs, direction and aim of pharmacopeial revision. Sollmann makes a number of pertinent suggestions on this subject which should be carefully studied by all, and especially by those who will represent the medical organizations at the next convention.

The carrying out of some of the suggestions (the method of selecting the Committee on Revision, for example) would involve certain changes in the present by-laws of the convention; these should, of course, receive most careful consideration. But the present by-laws state that "the Committee on Revision shall execute such orders or resolutions as have been assigned to it by the convention," and it is in this manner (as well as in the collecting of data for the committee) that the delegates can make their influence felt without any change in the present by-laws. Among the subjects of most medical interest on which the committee might be positively instructed, the following are suggested: standards for admissions, elimination of all secrecy, frequency of revision and the issue of supplements, and the question of doses. It is highly desirable that delegates and prospective delegates pay especial attention to these questions.

Attention may again be called to the conditions of medical representation in the Pharmacopeial Convention of 1910. In addition to the delegates appointed by the Army, Navy, and Public Health and Marine-Hospital Service and by the American Medical Association, incorporated medical colleges and medical schools connected with incorporated colleges and universities, and incorporated state medical associations, provided they "shall have been incorporated within and shall have been in continuous operation in the United States for at least five years before the time fixed for the decennial meeting of this corporation," are each entitled to three delegates, elected in the manner they shall respectively provide. There are also a few organizations not hereinbefore mentioned, admitted to representation in the convention of 1900, which are entitled to send delegates.

We again urge that county and other medical societies should take up the subject, discuss it thoroughly, and make their wishes known by resolutions or otherwise. The U. S. Pharmacopeia was originally created and kept up by physicians. Let us at least take sufficient interest in it to make it as near what we want as is possible under present conditions

THE CONFERENCE ON PELLAGRA

We devote considerable space this week to our report of the Conference on Pellagra, which was held last week at Columbia, S. C. Approximately six hundred physicians from all over the United States attended the meeting, and the manifold aspects of pellagra were discussed at great length. Unusual interest was shown throughout the deliberations of the conference. One striking

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1. Von Liszt: Lehrbuch des deutschen Strafrechts, 1908.
2. Von Hamel: Inleiding tot de studie von het Nederlandsche Strafrecht, 1907.
3. The Journal A. M. A., Nov. 6, 1909, liii, 1543.

feature was the purely scientific, humanitarian spirit which pervaded the meetings and which influenced those who took an active part in the proceedings. There was no disposition displayed to seek personal gain or aggrandizement. It seemed that every delegate had come with a desire to learn more about this disease[1] which has been attracting the attention not only of the medical profession of the world, but of the laity.

The conference assumed both a national and an international character, in that some of the papers read were contributed by distinguished foreign physicians and scientists who are authorities on pellagra. There was an abundance of clinical material presented, but a seeming lack of bacteriologic study of the disease, from which more is to be expected in the future. The federal government, keenly alive to the vast importance of the subject, sent leading men who represented not only the United States Public Health and Marine-Hospital Service, but also the Army and the Navy.

In considering the cause of the disease, the central thought which ran through all the discussions was that the etiology is not known, but that damaged corn or maize is only one factor in the causation of the disease. The prevailing views were presented by Dr. Byrd, of Jacksonville, Fla.: "If there is any one thing that has been impressed on me at this conference, it is that we do not know the etiology of pellagra. . . . Is it a safe thing, in the present state of our knowledge, for us to put ourselves on record that corn is the cause of pellagra? I contend it is not. It is better for us to say, 'We do not know.' This is a scientific question, and we ought not to accept anything short of absolute proof which the most exact science can give. So far as corn as a cause of the disease is concerned, we can say it is unproved." It is hoped that the prosecution of further research in regard to the etiology of the disease will yield such results that this honest confession of ignorance will not have to be made much longer.

Credit is due Dr. J. W. Babcock, superintendent of the State Asylum at Columbia, to the members of the State Board of Health of South Carolina, and to Dr. C. F. Williams, for calling this national conference to discuss this very vital topic.

THE TRANSMISSION OF ACUTE POLIOMYELITIS TO MONKEYS

In a recent comment[2] on the transmission of acute poliomyelitis to monkeys, by Landsteiner and Popper, we stated that, while further experiments were necessary, it seemed that a method had been found by the help of which our knowledge of the cause of poliomyelitis would be advanced. The report by Flexner and Lewis in this issue of The Journal, showing their success in transmitting acute poliomyelitis to monkeys and of maintaining the disease in those animals, is of great interest in this connection. Landsteiner and Popper failed in their efforts to communicate the disease from monkey to monkey, possibly because of the method employed. Flexner and Lewis, using the intracranial method of inoculation, have established that it is possible to carry the virus of epidemic poliomyelitis successfully through a series of monkeys, and it seems likely that the disease may be maintained in this animal indefinitely. This advances greatly the opportunity for successful study of the causation and prevention of epidemic poliomyelitis, which causes much permanent crippling and distress in addition to many deaths. At the same time there now can be no doubt any longer as to its infectious origin, because it is possible to transfer it from animal to animal, a result that could hardly be expected if the disease were due solely to the action of a toxic body, as suggested by some writers.

THE TREATMENT OF LEPROSY WITH NASTIN

Any hopes that were based on the employment of nastin, a bacterial fat recommended by Deycke Pasha and Reschad Bey in the treatment of leprosy,[1] fail to find support from the experiences of Dr. Walter R. Brinckerhoff and Dr. James T. Wayson with six cases, three of the tubercular type and three of the tuberculo-anesthetic type, treated in Hawaii, and reported in a recent brochure[2] issued by the U. S. Public Health and Marine-Hospital Service. The patients were all males between 10 and 40 years of age. The treatment was continued for periods of from five to fifteen months. It was found that the prolonged administration of small doses had no apparent effect on the progress of the disease, while larger doses caused such muscular pain as to necessitate a reduction in dose or discontinuance of the treatment. In three cases studied from this point of view no change was found in the distribution of the acid-fast substance of the bacilli before and after nastin medication. Slightly encouraging results were obtained in two cases, the lesions in one decreasing in extent and assuming a focal character, and a tubercle disappearing in the other. Four patients seemed to be unaffected by the treatment. Constitutional reaction was noted only when the dosage employed was large, but no local reaction or puriform softening of tubercles was observed. It is true that the number of patients treated was small, but the observations were carefully made by competent investigators, and the results must be considered as far from encouraging. It appears, then, that we must be content with present methods of treatment until something more promising is brought forward.

The Up-to-Date Physician.—The up-to-date physician has a mind receptive to truth from any source. He must have the power of exclusion and inclusion. He should be a rational skeptic, believing nothing, and yet believing everything—pessimistic only as to the possibility of failure; optimistic in a degree only limited by the limitations of finite knowledge.—C. D. Mills, in *Ohio State Medical Journal*.

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[1] Those interested in the subject of pellagra no doubt will appreciate having their attention called to the Department of Queries and Minor Notes in this issue, in which we give, in answer to a correspondent, a list of some articles which have appeared on the subject.

[2] The Journal, June 19, 1909.

[1] Deycke Pasha and Reschad Bey: A Bacterial Fat as Immunizing Substance in Leprosy; Its Theoretic Significance and Practical Application, Therapist, London, 1907, xvii, 49, 67, 79.

[2] Brinckerhoff, W. R., and Wayson, J. T.: *A Report of the Treatment of Six Cases of Leprosy with Nastin (Deycke)* Studies on Leprosy, Government Printing Office, 1909.

Medical News

CALIFORNIA

Tag Day.—October 2, which was celebrated as tuberculosis tag-day in Berkeley, netted the workers $2,900, which will be applied to a fund for the purchase of a site and the building of a hospital in West Berkeley.

New Case of Plague.—The third case of bubonic plague contracted by a human being in the state during the last three months, was reported to the State Board of Health Nov. 6, from Oakland. The victim is a butcher who became infected through eating squirrels.

Health Officers' Meeting.—At the semi-annual meeting of the Southern California Health Officers' Association, held in Hanford, October 12, Dr. Samuel W. R. Langdon, Stockton, was elected president; Dr. Asbury N. Loper, Dinuba, vice-president; and Dr. George A. Hare, Fresno, secretary-treasurer.

Hospital Board Reelected.—At the annual meeting of the Peninsula Hospital, Palo Alto, the following were reelected directors: J. A. Dunker, Alfred Seale and Miss Elizabeth Hogue, and Drs. Thomas M. Williams, Samuel B. Van Dalsem, Harry B. Reynolds and Josiah H. Kirk. Dr. Williams was reelected president of the board.

Oppose Unlicensed Japanese Practitioners.—Plans are being prepared by the State Board of Medical Examiners for the vigorous prosecution of Japanese who represent themselves as physicians and practice without license. Through its secretary, the board has written the Japanese consul and the Japanese Association of America, soliciting their support in the suppression of the alleged frauds.

Lectures on Physiology.—Sir Augustus Waller delivered a series of lectures on the Hitchcock foundation at the University of California, beginning September 18. The subject of his lectures was "Physiology the Servant of Medicine," in which he considered electrical signs of life; the general methods of investigation; the first and last signs of life; electrical action of the human heart; the normal rhythm of the hearts of the canidae; the nervous system; the electrical responses of nerve, of muscle, of the retina, and the brain; the law of sensation; the sigmoid curve; the relation between energy expended and result acquired; vegetable alkaloids; the axiom of general physiology; the application to human life; blaze currents, the retina, green leaves, petals of a flower; our fish supply; awakening of a dormant embryo; blaze current of the egg, of the seed; alcohol, chloroform, and ether, and their physiological equivalents; the price of anesthesia; the lethal chamber in men, and in animals, and the chloroform balance.

CONNECTICUT

Bequest to Yale.—By the will of the late Levi I. Shoemaker, Wilkes-Barre, Yale University is bequeathed more than $500,000 on the death of the testator's wife, for the use of the medical department of the university.

Sanatorium Site Bought.—A site of fifty-five acres in the town of Huntington, near Shelton, for the Fairfield County Antituberculosis Sanatorium, was purchased by the State Antituberculosis Commission, October 14. Plans for the construction of the building are under way. It is believed that accommodation for 200 patients will be ready by the opening of spring.

Report of the Gaylord Farm.—The fifth annual report of the New Haven County Tuberculosis Association shows an extensive growth during the past year. Two new buildings have been added to the Gaylord Farm, the Beebe Memorial, and a residence for Dr. David R. Lyman, New Haven, medical superintendent. During the year the average number of patients was 54. The dispensary of the institution during the year treated 120 patients in New Haven, of whom the majority have materially improved.

Anti-Spitting Law in Effect.—Two laws enacted by the last general assembly, along the line of public health, became effective October 1. The first requires any physician who may discover a case of tuberculosis to report it to the health officer of the town within which it occurs within twenty-four hours. The second provides a fine of not less than $1 and not more than $5 for any person who "shall spit on the paved walk of any public street, park or square, or on the floor of any hall or office in any hotel, restaurant, apartment house, tenement or lodging-house which is used in common by the guests or tenants thereof, or on the platform, steps, or stairs in any public building, church, theater, railway station, store, factory or street-car or other public conveyance."

ILLINOIS

The Red Cross Work this Year.—The Illinois Branch of the American National Red Cross closed for the fiscal year October 31. The report of the treasurer shows that $95,192.72 had been received from the public and used in the charitable work of the organization, and that the total administrative expenses were $126.78.

Personal.—Dr. Elva A. Wright, Lake Forest, has returned after a summer abroad.——Dr. Frank Buckmaster, Effingham, has been made instructor in experimental surgery in Barnes Medical College, St. Louis.——Dr. Clarence W. Chapin, Weldon, has succeeded Dr. Guy D. Dowdall, Clinton, as president, ad interim, of the Dewitt County Medical Society.——Dr. John C. Augustine, Batavia, was operated on in Chicago for the removal of enlarged glands of the neck, November 1.

Free Diphtheria Antitoxin.—The State Board of Health announces that it will furnish diphtheria antitoxin of the highest quality without charge in cases of necessity, the only requirement being that the physician who obtains the antitoxin will give a receipt for it and will furnish the State Board of Health a clinical report concerning the patient to whom the antitoxin was administered. The state distribution was made possible by the appropriation passed by the last general assembly.

Elections.—At the sixty-third annual meeting of the Æsculapian Society of the Wabash Valley, held in Paris, October 31, the following officers were elected: President, Dr. Elmer B. Cooley, Danville; vice-president, Dr. Paul A. Slater, Hindsboro, and secretary-treasurer, Dr. Herbert N. Rafferty, Robinson (reelected).——At the annual meeting of the Elgin Physicians' Club, November 1, the following officers were elected: President, Dr. Edwin A. McCornack; vice-president, Dr. John F. Bell; secretary-treasurer, Dr. Jane C. Trull, and executive committee, Drs. Dwight E. Burlingame, Frederick C. Schurmeier, Elgin, and Harry E. Kerch, Dundee.——The Bushnell Doctors' Club resumed its weekly meetings October 25, and elected Dr. John P. Roark, president, and Dr. Clement J. Rider, secretary-treasurer. The club has taken up the post-graduate course of study suggested by the American Medical Association.

Chicago

Suabian Donation.—Out of the proceeds of the annual volkfests of the Schwaben-Verein, $1,150 has been donated to the various hospitals of the city.

Personal.—Dr. George G. Zoehrlaut has been elected supreme editor of the Phi Beta Pi medical fraternity.——Sir Wilfred T. Grenfell, M.D., of Labrador, delivered an address on the subject "Is Life Worth While" before the Sunday Evening Club, November 7.——Dr. and Mrs. Fenton B. Turck and Dr. Joseph Zeisler and family have returned from Europe.

INDIANA

Hospital Incorporated.—The Kosciusko Hospital has been incorporated at Warsaw with a capital stock of $25,000, with the object of constructing and operating a hospital.

Gift to Tent Colony.—Hon. John W. Boehne, Evansville, has given the Evansville Antituberculosis Society $5,000 toward the establishment of a tent colony for tuberculosis near that city.

Smallpox in Fort Wayne.—On account of the prevalence and spread of smallpox in Fort Wayne, the board of public health has decreed that every public and parochial school child in the city and every employee in the Pennsylvania System shops must be vaccinated immediately.

Personal.—Dr. Francis W. Johnson, Utica, is undergoing treatment in the Jeffersonville Hospital for disease of the throat.——Dr. Samuel E. Smith, Richmond, superintendent of the Eastern Indiana Hospital for the Insane, was elected president of the Associated Charities and Corrections of Indiana, at its eighteenth annual meeting in Columbus, October 26.——Dr. Charles P. Melroy, Otisco, accidentally shot himself in the thumb, October 31.

New Health Board Law.—The new law governing county and city health officers provides that the county health officer shall be elected by the board of county commissioners, and serve for one year, with a salary of $200 per year, to be paid quarterly, with additional payment for attendance on cases of infectious diseases, quarantine, fumigation, etc. In cities of less than 30,000 inhabitants, the office of county and city health officer may be consolidated by agreement.

IOWA

State Sanatorium.—Dr. Harry E. Kirschner, superintendent of the State Sanatorium for the Treatment of Tuberculosis, Oakdale, announces that the new building of the sanatorium, which will be ready for occupancy about the middle of December, will increase the capacity of the institution to 120.

Personal.—Dr. Herbert V. Scarborough, Grand Junction, has been appointed assistant superintendent and physician at the State Sanatorium for the Treatment of Tuberculosis, Oakdale. ——Dr. John E. Howe, Greenfield, has been appointed a member of the state board of pardons and parole, vice Dr. Joseph M. Emmert, Atlantic, deceased.——Dr. Will Bryan, formerly of Cedar Rapids, has been appointed second assistant physician at the State Institution for the Insane, Clarinda.——Dr. James M. Donelan, Glenwood, was brutally assaulted by a farmer living near that place, November 1. It is believed that the assault grew out of resentment on account of the assailant's house being placed under temporary quarantine for diphtheria by Dr. Donelan, who is township health officer.

MAINE

Personal.—Dr. W. S. Noyes, Saco, was elected surgeon-general and member of the executive committee of the Union Veterans' Union, at its meeting in Washington, October 7. ——Drs. Ralph A. Parker and Daniel A. Barrell have been appointed medical inspectors of the public schools of Auburn, and Dr. John F. Hill medical inspector of the public schools of Waterville.

Hurt in Automobile Accident.—Five Augusta physicians, Drs. George R. Campbell, William H. Harris, Wellington Johnson, George A. Coombs, and Albert H. Sturtevant, were injured in an automobile accident September 22, while returning from Belgrade. Dr. Johnson sustained a comminuted fracture of the left arm and a dislocation of the shoulder; Dr. Sturtevant suffered a contusion of the chest and dislocation of both thumbs; Dr. Harris strained his back, necessitating his being taken to the general hospital; Dr. Coombs strained his arm and left leg, and Dr. Campbell sprained his right ankle.

Medical School Opens.—The Medical School of Maine, the Medical Department of Bowdoin College, Brunswick, opened for its nineteenth annual session October 22. Dr. Richard D. Small, demonstrator in histology and instructor in obstetrics, has resigned. The professorship in materia medica and therapeutics, vacated by the death of Prof. Charles O. Hunt, still remains unfilled. The following are the new members of the faculty: Dr. Philip Pickering Thompson, assistant demonstrator in anatomy; Drs. Philip Webb Davis and Alfred William Haskell, clinical assistants in surgery; Drs. Ernest Woodbury Files and Frank Joseph Welch, clinical assistants in medicine, and Dr. William Moran, clinical assistant in diseases of the eye.

MARYLAND

New Head of Visiting Nurses' Department.—Mrs. Reginald Foster, the widow of Dr. Reginald Foster, Boston, has been appointed head of the visiting nurses' department of the Phipps Tuberculosis Dispensary at Johns Hopkins Hospital, Baltimore.

Pure Food Exhibition.—The pure food exhibition in Baltimore closed November 6, after being open two weeks. Great interest was manifested in the exhibition by physicians and the public. The petition presented to the governor, urging the speedy enactment by the state of a pure food law similar to the federal Food and Drugs Act, received many thousand signatures.

Conference of Charities and Corrections.—The fifth annual meeting of the Maryland Conference of Charities and Corrections was held in Baltimore, November 6-8, at the hall of the Medical and Chirurgical Faculty of Maryland. Among the subjects discussed were health and sanitation, education of children, trade schools, care of offenders, dependent children, defectives, care of the insane, alms-houses, their management, etc.

Personal.—Among the Maryland physicians elected to office at the election, November 2, were Dr. Joshua W. Hering, Westminster, comptroller (reelected); Drs. D. Clinton R. Miller Cearfoss District, and Charles A. Wills, Hyattsville, state senators; Dr. Thomas A. Ashby, Baltimore, member of the house of delegates; and Dr. George Wells, Annapolis, clerk of the Circuit Court of Anne Arundel county (reelected).——Dr. Harry F. Shipley, Granite, was badly hurt, November 1, in a runaway accident.——Dr. F. S. Bootay assumed charge of St. Luke's Hospital, Baltimore, November 4, vice Dr. C. C. McCarthy, resigned.

MICHIGAN

Personal.—Dr. and Mrs. Ovidus A. Griffin, Ann Arbor, have returned from Europe.——Dr. Joseph V. Grahek, Calumet, who was recently elected supreme physician of the National Croatian societies, will make his headquarters in Pittsburg. Dr. Herman H. Ruonavaara, Calumet, succeeds Dr. Grahek as supreme physician of the United Croatian-Slevonian societies of the upper peninsula.

Communicable Diseases of September.—During September the number of cases of pneumonia and the deaths from that disease were more than the average for the preceding month. There were reported 79 new cases of, and 172 deaths from, tuberculosis, the mortality being less than the preceding month, but more than the average for September. Typhoid fever was much more prevalent, being reported from 185 localities, or 32 more than for the preceding month. Diphtheria was reported in 60 localities, or 8 more than for the preceding month. The reports from meningitis show that it was more prevalent than in the preceding month, but less prevalent than in 1908. Whooping-cough was less prevalent; scarlet fever was much more prevalent than in August, 1908, or in September, 1908, the disease being present in 56 localities. A serious outbreak is reported from Bay City, where 115 cases have been reported. Measles was much less prevalent than in the preceding month, but more prevalent than in September last year, and smallpox was less prevalent than in August, this year, or September, 1908.

Elections.—At the fourteenth annual meeting of the Detroit Academy of Medicine, October 12, Dr. Lewis E. Maire was elected president; Dr. Homer E. Safford, vice-president, and Dr. Guy L. Connor, secretary-treasurer.——The Detroit Society of Neurology and Psychiatry, at its annual meeting October 7, elected the following officers: President, Dr. Edmund A. Christian, Pontiac; vice-president, Dr. Albert M. Barrett, Ann Arbor; secretary, Dr. Charles W. Hitchcock, Detroit; and councilors, Drs. Carl D. Camp, Ann Arbor, and David Inglis, Detroit.——At the annual meeting of the Ionia County Medical Society, held in Ionia October 16, the following officers were elected: President, Dr. George A. Stanton, Belding; vice-presidents, Drs. Charles C. Dellenbaugh, Portland, Frances A. Hargrave, Palo, William A. Wilkerson, Orleans, and Frederick L. Morse, Lake Odessa; secretary-treasurer, Dr. Charles S. Cope, Ionia; censors, Drs. Charles B. Gauss, Palo, Joseph F. Pinkham, Belding, and Edwin F. Beckwith, Ionia; delegate to the state society, Dr. Cope, and alternate, Dr. Pinkham.——Physicians of Owosso met October 19 and organized the Owosso City Physicians' Association, and elected Dr. Sam S. C. Phippen, president; Dr. Annis S. H. Gooding, vice-president, and Dr. Arthur M. Hume, secretary-treasurer.——Montcalm County Medical Society, at its annual meeting, held in Greenville October 14, elected the following officers: President emeritus, Dr. John Avery, Greenville; president, Dr. Francis R. Blanchard, Lake View; vice-presidents, Drs. Jay O. Nelson, Howard City, Ernest M. H. Highfield, Edmore, William H. Belknap, Greenville, and Walter A. Lee, Sheridan; and secretary-treasurer, Dr. Horace L. Bower, Greenville (reelected).

MISSOURI

Wins Mandamus Suit.—The mandamus suit brought by Dr. William F. Kuhn, St. Joseph, formerly superintendent of State Hospital No. 2, against the board of managers of that institution, was decided in favor of Dr. Kuhn, October 23, and the board of managers will now be required to pay Dr. Kuhn the salary for July and maintenance money for himself and family for that month.

State Board of Nurses Appointed.—Under an act of the last legislature, the governor appointed the following five women to be known as the State Board of Examination and Registration of Nurses: Miss Maud Landis, Levering Hospital, Hannibal, and Mrs. F. S. Smith, superintendent of St. Luke's Hospital, St. Louis, three years; Miss C. B. Forrester, University Hospital, Kansas City, and Miss Ida Gerding, superintendent of the Lutheran Hospital and instructor in the training school for nurses in that city, St. Louis, for two years; and Miss E. B. Tooker, Springfield Hospital, for one year.

NEW JERSEY

Annual Banquet of Hospital Clinic.—The annual banquet of the Elizabeth General Hospital Clinic was held October 10. Dr. Frederick H. Pierson was elected president; Dr. Horace R. Livengood, vice-president; Dr. Russel A. Shirreffs, secretary (reelected), and Dr. John H. P. Conover, treasurer (reelected).

State Board Changes.—Dr. Edmund L. B. Godfrey, Camden, resigned as secretary of the State Board of Medical Examiners of New Jersey November 3, on account of continued ill health, and Dr. Horace G. Norton, Trenton, was elected to fill the unexpired term.

Gift to Hospital.—George E. Pancoast, Mount Holly, has conveyed to the Burlington County Hospital seven of his properties in Mount Holly. For this charitable bequest he gives the following reason: "My love for the aforesaid institution, and hope, wish and desire that said institution shall prosper and be a blessing to wounded humanity."

NEW YORK

Medical Club Changes Name.—At the annual meeting of the Dutchess County Medical Club, October 11, the name of the organization was changed to the Poughkeepsie Academy of Medicine. The following officers were reelected: President, Dr. James E. Sadlier; vice-president, Dr. Nelson Borst, secretary, Dr. John A. Card; and treasurer, Dr. Lewis H. Marks.

Women Incorporate Society.—The Woman's Medical Association was incorporated November 3, with the stated purpose of bringing about closer relations among the alumnæ of the Woman's Medical College, the New York Infirmary and other women physicians holding degrees from medical colleges. Among the incorporators are Drs. Mary B. Jewett, Josephine Hemenway, Eleanor Parry and Alma Vedin, all of New York City.

State Board Election.—At the annual meeting of the State Board of Medical Examiners, held in Albany, October 30, Dr. William Warren Potter, Buffalo, was reelected president, and Dr. William S. Searle, Brooklyn, vice-president. Topics for the coming year were assigned as follows: Anatomy, Dr. William S. Ely, Rochester; physiology, hygiene and sanitation, Dr. William H. Park, New York; chemistry, Dr. Floyd S. Farnsworth, Plattsburg; surgery, Dr. Willis G. MacDonald, Albany; obstetrics and gynecology, Dr. William Warren Potter, Buffalo; pathology, Dr. Lee H. Smith, Buffalo; bacteriology, Dr. Frank W. Adriance, Elmira, and diagnosis, Dr. William S. Searle, Brooklyn.

Society Meeting.—At the fourth annual meeting of the First District Branch of the Medical Society of the State of New York, held in Middletown, October 28, the following officers were elected: President, Dr. Theodore D. Mills, Middletown; vice-president, Dr. W. Stanton Gleason, Newburgh; secretary, Dr. Charles E. Denison, New York City; and treasurer, Dr. James E. Sadler, Poughkeepsie. The next annual meeting will be held in Newburgh.——At the annual meeting of Binghamton Academy of Medicine, held October 26, Dr. John S. Kelley was elected president; Dr. Frederick A. Goodwin, vice-president; Dr. Frank L. Allen, secretary (reelected), and Dr. Harry I. Johnson, treasurer.

New York City

Personal.—Dr. Michael A. Cohn, Brooklyn, was injured in an automobile accident recently, and taken to the German Hospital.——Dr. L. Emmett Holt has been afflicted by the loss of his youngest son, who died at Pleasantville, N. Y., from pneumonia, October 29.

Apartments for Tuberculosis Patients.—Plans were filed November 3, for four model six-story tenements to be used for the accommodation of sufferers from tuberculosis. The tenements are to be erected in the upper east side at an outlay of $650,000, not including site. Roof gardens, open-air balconies and other features designed to aid in the cure and prevention of tuberculosis are planned.

Bequests to Hospitals.—The will of Mitchell Valentine, late of Westchester, N. Y., gives about $500,000 to be divided between the Presbyterian and Hahnemann Hospitals of New York, and the two funds to be known respectively as the Isaac E. Valentine and the Stephen Valentine Memorial funds. The sum of $100.000 is given to the Peabody Home in the Bronx, the income of which is to be used for the general purposes of the home.——By the will of the late John S. Kennedy, banker and philanthropist, who died October 31, $2.250,000 is bequeathed to the Presbyterian Hospital, to which he had already given a million dollars a year ago, and also $400,000 for a nurses' home.

Large Sums for Charity.—The will of the late Jane G. Phelps of Tarrytown leaves $10,000 to the Presbyterian Hospital of New York City, $5,000 to the Tarrytown Hospital, and $5,000 to the Lincoln Home and Hospital, Manhattan.——The will of Caroline Phelps Stokes, who died on April 26, gives the Peabody Home for Aged and Indigent Women in the Bronx $10,000 for a chapel, and the New York Post-Graduate Hospital and the Women's Medical College Infirmary each $5,000 for free beds to be named the Dorothy beds.——At the celebration of the Twenty-fifth anniversary of the Montefiore Home at the Hotel Astor recently, donations amounting to $101,500 were received. Of this amount Jacob H. Schiff gave $50,000 and Mr. and Mrs. Murray Guggenheim gave $25,000. The new home which was recently completed has accommodations for 600 patients.

PENNSYLVANIA

Personal.—Dr. William S. O. Sherman has been named chief surgeon of the Carnegie Steel Company of Pittsburg. He will appoint twenty-seven additional surgeons, one to be stationed at each plant at a fixed monthly salary.——Dr. Samuel H. Gilliland, of Marietta, has been appointed to take the place of the late Dr. Leonard Pearson as state veterinarian. Dr. Gilliland will take charge of the state live stock sanitary board at once.

Philadelphia

Jewish Consumptive Institute.—The Jewish Consumptive Institute completed its organization November 6 by the election of the following officers: President, Max Eskin; vice-presidents, P. Miller and Abraham Weitzenfeld; treasurer, D. B. Tierkel. The following physicians were elected to the medical board: Drs. Solomon Solis-Cohen, Max Staller and Max Barbour.

Personal.—Dr. Harry Lowenburg has been made instructor in pediatrics in Jefferson Medical College.——Dr. Henry Parrish has been chosen laryngologist to the Kensington Tuberculosis Dispensary.——Dr. Henry W. Cattell has been appointed a director of the Philadelphia County Medical Society to fill an unexpired term.——Dr. Holmes Troutman, resident physician in the Philadelphia General Hospital, has been appointed resident physician at the Queen's Hospital, Honolulu, Hawaii.

Hospital Corner-Stone Laid.—The corner-stone of the addition to Mount Sinai Hospital was laid with appropriate ceremonies, October 27. More than two thousand persons were present. The new building will double the present capacity of the hospital. The building is a brick and stone structure with terracotta trimmings, 90x90 feet. It is hoped to have the two first floors completed by January. The first floor of the building will be used as a dispensary and the second will contain the men's and women's wards and will be provided with 65 beds.

Physicians and Allied Scientists Meet.—The Philadelphia Academy of Medicine and Allied Sciences, an organization of negro physicians, dentists and pharmacists, at its fifth annual meeting, held October 18, elected the following officers: President, Dr. Robert W. Bailey, Germantown; vice-president, Dr. Milton N. White; secretary, Dr. Grace A. Dinguid; assistant secretary, Dr. J. T. Howard; corresponding secretary, Dr. Arthur T. Boyer; treasurer, Dr. Paul J. Taylor; historian and organizer, Dr. C. G. Coates; and executive board, Drs. Nathan F. Mossell, John P. Turner, T. Spotuas Burwell, Arthur T. Boyer, and J. Henry Boothe.

Money for Institutions.—Richard B. Westbrook bequeathed $10,000 to the Wagner Free Institute of Science. By the will of his widow, Dr. Henrietta Payne Westbrook, who died October 15, any deficiency in the above bequest is to be made up from her estate, valued at $35,000.——The Federation of Jewish Charities is made the beneficiary of $3,000 in the will of the late Herman Loeb.——The charities to benefit by the annual charity ball, January 3, at the Academy of Music, will be the medical wards of the University of Pennsylvania; the maternity department of Jefferson Medical College Hospital; the Children's Aid Society; and the Polyclinic Hospital.——A provisional bequest of $4,000 to the Norristown Hospital is contained in the will of the late Abraham Wentz.

RHODE ISLAND

New Tuberculosis Hospital.—Mrs. Theodore K. Gibbs has purchased a site at Southwick's Grove, Middletown, on which it is said she will erect a large hospital and home for the treatment of tuberculosis patients from Newport.

Personal.—Dr. Jay Perkins, medical examiner for the city of Providence, has resigned, and the governor has appointed Dr. Clifford H. Griffin to fill the vacancy. Dr. William C. Monroe, health officer of Woonsocket, has returned from Europe.

Fiske Fund Prize Essay.—The trustees of the Fiske Fund propose the following subject for the Fiske Fund Prize Essay for the year 1910: "Classification and Treatment of the Diseases Commonly Known as Rheumatism." For the best essay on this subject, they offer a prize of $200. Dissertations must be forwarded to Dr. Halsey DeWolf, 212 Benefit street, Providence, on or before May 1, 1910. The trustees of the fund are Drs. Eugene Kingman, Providence, Augustine A. Mann, Central Falls, and Frederick T. Rogers, Providence.

Franco-American Physicians Meet.—At the annual meeting of the Franco-American Medical Society of Rhode Island, held in Providence, the following officers were elected: President, Dr. Joseph D. N. Dubeau, Providence; vice-presidents, Drs. Theodule Morisseau, Warren, and J. Edgar Tanguay, Woonsocket; secretary, Dr. Alfred Poirier, Woonsocket; assistant secretary, Dr. Arthur O. Trottier, Providence; treasurer, Dr. Florian A. Ruest, Pawtucket, and librarians, Drs. J. Gaspard Boucher and Walter C. Rocheleau, both of Woonsocket.

TENNESSEE

Personal.—Dr. A. Bennett Cooke, Nashville, has returned after a summer in Europe.——Dr. Benjamin H. Fraysen has left the University of the South, Sewanee, where he has been connected with the department of medicine and pharmacy.——Dr. S. Rush Miller, Knoxville, has returned from Europe.

East Tennessee Physicians Elect.—At the annual meeting of the East Tennessee Medical Society, held in Greeneville, October 1 and 2, Bristol was selected as the next place of meeting. The following officers were elected: President, Dr. McMinn M. Pearson, Bristol; vice-presidents, Drs. George R. West, Chattanooga, Robert O. Huffaker, Chuckey, and John P. Blankenship, Maryville; and secretary-treasurer, Dr. William M. Copenhaver, Bristol.

Colleges Open.—Memphis Hospital Medical College opened for its thirtieth annual session October 1. Dr. Benjamin F. Turner delivered the opening lecture.——Tennessee Medical College, the Medical Department of Lincoln Memorial University, was formally opened October 1, with addresses by Prof. W. L. Stooksbury, president of the university, Cumberland Gap; Hon. Henry R. Gibson, Knoxville; Dr. R. L. Jones, dean of the faculty, and others.

Will Establish Sanatorium.—At a meeting of the Knoxville Association for the Prevention and Relief of Tuberculosis, held October 13, a prospectus was adopted setting forth that the association has in mind the establishment of a sanatorium in Knox county for the treatment of tuberculosis and for the prevention of the disease. The movement is purely benevolent, without any purpose of personal gain or profit. An appeal is to be made for subscriptions, donations, voluntary contributions, funds for endowment, materials, etc., to secure proper location and construct adequate buildings and provide facilities for the handling of patients and the promotion of the cause.

TEXAS

Sanatorium Opened.—The Texas Baptist Memorial Sanatorium, Dallas, which has cost nearly half a million dollars, was opened to inspection October 14. The formal opening will be held some time this month.

Physicians Meet at Brady.—At the annual meeting of the Fourth District (San Angelo) Medical Society, held at Brady, October 12 and 13, Dr. A. Chauncey DeLong, San Angelo, was elected president, and San Angelo was selected as the place for the next annual meeting.

The Prevalence of Hookworm Disease.—Dr. William M. Brumby, Houston, state health officer, on October 23, sent out a letter to health officers of the state, relative to the prevalence of hookworm disease, and the manner in which it may be cured. Microscopic examination of feces for the ova or hookworm will be made by the state bacteriologist free.

Medical Examiners Sustained.—The Third Court of Civil Appeals, on October 13, sustained the right of the State Board of Medical Examiners to refuse to issue licenses on account of grossly unprofessional or dishonorable conduct of a character likely to deceive and defraud the public. The board is said to have refused a verification license to Stephen Alfred Morse of McLennan county on account of alleged unprofessional conduct. Morse instituted mandamus proceedings, but the appellate court sustained the board.

Personal.—Dr. Joseph Gilbert has been appointed medical attendant for the male students of the University of Texas, Austin.——Dr. J. Mark O'Farrell, Richmond, has been appointed a member of the State Board of Health, vice Dr. Edward B. Parsons, Palestine, resigned.——Dr. Joseph R. Ferrell, Waco, has returned from Europe.——Drs. Arthur C. Scott and R. R. White, Temple, chief surgeons of the Santa Fe System, have been unanimously elected chief surgeons of the Gulf and Interstate Railway.——Dr. Samuel C. Broadstreet has been appointed city health officer of Mount Pleasant.

Health Officers' Meeting.—The annual Conference of State and County Health Officers was held in Austin October 7 and 8. A resolution was adopted calling on the governor to make operative at the earliest possible moment the bill providing for the establishment of a leper colony. The association endorsed individual drinking cups in schools. A committee consisting of Drs. Dabney Berry, San Antonio; James M. Loving, Austin; Edward M. Thomas, Georgetown; John M. Johnson, Giddings, and James W. McCarver, Brownwood, was appointed to confer with the State Board of Health regarding further provisions in the sanitary code.

WISCONSIN

Personal.—Dr. Chester M. Echols, Milwaukee, has been elected professor of gynecology in the Marquette University Medical School, vice Dr. Thomas Fitzgibbons.——Dr. John T. Corr, Kenosha, has returned from Europe.

Veteran Physician Honored.—Jefferson County Medical Society, at a special meeting in Jefferson, October 16, gave a banquet to Dr. William W. Reed, Jefferson, in honor of his sixtieth anniversary as a practicing physician in that place. On behalf of the society, Dr. John V. Stevens presented Dr. Reed with a silver loving-cup.

GENERAL NEWS AND COMMENT

Army Sanatorium.—Representatives of the Army and Navy are engaged in selecting a site for an army and navy sanatorium in Baguio, Northern Luzon, 150 miles north of Manila, at a high altitude and with a temperature ranging from forty to eighty degrees.

New Law for Japanese Physicians.—The United States vice-consul general at Yokohama reports that, according to the revised law, physicians may not advertise in any way whatsoever, their ability, method of treatment or previous career, excepting degrees, title and specialties, and shall provide a record book of service to patients which must be preserved for at least ten years.

Uniform Anti-Spitting Sign.—Health Commissioner Dixon of Pennsylvania has succeeded, through correspondence with state boards of heal[illegible]ountry, in securing the adoption of a unifo[illegible]n to be posted in railway cars that pass [illegible] states. The sign reads as follows: "The laws of the different states forbid spitting in public places under penalty."

Hospital Buildings Completed.—The two new buildings at Ancon Hospital, Canal Zone, now practically completed, will contain four surgical wards, the largest ward buildings in the reservation. The buildings are two stories in height and are intercommunicable. These wards will be used for the treatment of negro patients, and will give additional accommodation for 150 to the hospital.

Non-Lepers at Molokai.—Press telegrams report that fifty supposed lepers out of the first hundred examined by physicians at Molokai, have been declared non-lepers, and will probably be freed. The reexamination is being made under the resolution adopted by the last legislature, and it is expected that many hundreds of patients will apply for the privilege of reexamination under the law.

Pure Water for Soldiers.—A board of officers has been appointed, consisting of Lieutenant-Colonel Jefferson R. Kean and Major Frederick F. Russell, of the medical corps, and Capt. Bertram T. Clayton, of the quartermaster's department of the army, to visit the water purification plants of many cities and pass on the advisability of the adoption by the war department of plants for purification of water by the so-called ozone process.

Colored Physicians Meet.—At the tenth annual meeting of the Negro Medical, Dental and Pharmaceutical Association of West Kentucky and Tennessee, held at Humboldt, Tenn., October 15, Dr. W. Justin Waytes, Ripley, Tenn., was elected president; S. H. Broom, Savannah, Tenn., vice-president; Dr. John L. Light, Jackson, Tenn., secretary; Dr. S. W. Polk, Milan, Tenn., corresponding secretary, and Dr. E. D. Barnett, Brownsville, Tenn., treasurer. Brownsville was selected as the next place of meeting.

Election of Cotton Belt Surgeons.—The Cotton Belt Railway Surgeons' Association, at its annual meeting, held in Texarkana, Texas, October 26, elected the following officers: President, Dr. William A. James, Chester, Ill.; vice-presidents: for Missouri, Dr. Garnett S. Cannon, Illmo; for Arkansas, Dr. Amos W. Troupe, Pine Bluff; for Texas, Dr. Irvy L. McGlasson, Waco; for Louisiana, Dr. Oscar Dowling, Shreveport; for Tennessee, Dr. John L. Jelks, Memphis; for Illinois, Dr. William F. Grinstead, Cairo, and secretary-treasurer, Dr. Harry H. Smiley, Texarkana.

The Colored Antituberculosis League.—Surgeon Charles P. Wertenbaker, United States Public Health and Marine-Hospital Service, a southern man and thoroughly conversant with the conditions affecting the colored race, deserves great credit for his earnest work in the dissemination of knowledge regarding tuberculosis among the colored people. He has formulated a plan for the organization of colored antituberculosis leagues in each state, with a branch in every colored church. Up to the present time, such leagues have been organized in Georgia, Louisiana, Mississippi, North Carolina, and Virginia. Under the organization of each state league, a committee is appointed to select a president for every county in the state, whose duty it is to organize a branch league in each colored church in the county. Each church league is to appoint four standing committees, on finance, information, sick and sanitation respectively. The work of the third committee is especially important, as it makes out a list of all sick and ailing, whereupon the physician of the organization will visit the patients and decide the nature of the illness. Each member of the league is given a certificate of membership, of attractive appearance and suitable size for framing and use as house decoration, bearing printed information relative to the cause, prevention and cure of tuberculosis. The dues paid into the league go to form a fund to help those of its members who contract tuberculosis. The church league supplies its members with information regarding tuberculosis and sanitation, aids sick members, establishes dispensaries, and ultimately sanatoriums and tuberculosis farms where the patients, while living out of doors and working on the farm, may be under medical supervision; it also helps to provide tents, shacks or sheds, with sleeping-bags, blankets, bedding, etc., and dispenses proper food which indigent patients might not be able to obtain otherwise. As soon as a church league is formed, a physician is secured to examine all members referred to him and to decide if they have tuberculosis. When practicable, a tuberculosis dispensary is to be established at some convenient point where physicians may have certain days and stated hours where they can see consumptives and decide as to the necessary treatment. For the purposes of the league, tuberculosis patients are divided into three classes, the first including those who are in the early stages of the disease and who are able to work while taking treatment; the second, those patients who need to stop work and remain quiet to get well; and the third, cases in which the disease has progressed so far that it is hopeless to attempt a cure, but in which much can be done to make the patients comfortable and to prevent them from spreading the disease. The work of these leagues is at present in the formative stage, but such a scheme appears to be the best yet suggested to meet the problem of tuberculosis among the colored population of the country.

FOREIGN

Congress for Study of History of Medicine.—Italy held at Venice last month the second annual national congress for study of the history of the medical and natural sciences, with Professor Giordano in the chair. A number of unpublished diaries and data were pr[illegible]it on the history of medicine during the [illegible] and into the sixteenth century. The list [illegible] diary describing the plague at Venice and Padua in 1576, and others showing the high privileges enjoyed by the profession in Venice, exemption from taxation, advantages of organization, and the concerted and effectual action by the local medical association against certain abuses and quack practices. The decision of the board of officers of the local medical association seems to have been accepted by the courts as decisive in all medicolegal questions.

LONDON LETTER

(From Our Regular Correspondent)

London, Oct. 30, 1909.

Alarming Increase of the Unvaccinated in England

In a previous letter the disastrous effects likely to result from the relaxation of the vaccination law, made owing to the pressure of the antivaccinationists, has been foretold. In this country extreme ideas as to the liberty of the subject and the rights of parents to forbid an operation on their children which they consider injurious are widely entertained. The legislation of recent years on vaccination consists entirely of concessions to the antivaccinationists who have carried on a persistent agitation against what they call "the disgusting and dangerous practice of inoculating children with matter obtained from sores." In 1853 an act making vaccination compulsory was passed without opposition. It remained in force until 1867, when the first concession was made to antivaccinators. A parent was rendered liable to a penalty of $5 for neglecting to have a child vaccinated, unless he could produce "a reasonable excuse." It was not sufficient for him to have a general objection to vaccination, but he had to satisfy the magistrate by legal evidence that he had good ground for believing that in the particular case vaccination would be injurious. As a further concession an act was passed in 1898 by which all public vaccinators were ordered to use calf lymph and the use of human lymph was abandoned. Previously calf lymph vaccination was only performed by private vaccinators, who charged an increased fee for it. But the act went farther and a parent who failed to have his child vaccinated was exempted from penalty if he could satisfy the magistrate within four months of the birth of the child that he conscientiously believed that vaccination would be injurious to its health. In 1907, by a new act the parent was no longer compelled to appear before a magistrate; all he had to do was to send a declaration to the vaccination officer that he believed vaccination to be injurious. The effects of all these concessions are only now becoming apparent and the first statistics on the subject have been published in the *Lancet* by Dr. L. B. Cane, a public vaccinator. He shows that in his district of Peterborough the percentage of exemptions from vaccination have steadily risen from 0.45 in 1897 (the year before the recognition by law of the "conscientious objector"), to 1.1 in 1899, and 2.2, 2.7, 2.8, 4.2 and 4.2 in the succeeding years. A slight fall followed and in 1907 the percentage was 3.5, but after the passage of the last act, just mentioned, the percentage rose to the enormous one of 28. Moreover this does not express the whole proportion of those unvaccinated, but only those granted legal exemption. Some children are not vaccinated in consequence of ill-health and others escape the notice of the vaccination officers by removal to another district. Finally the figures for Dr. Cane's district are much below the average for the county of Northampton in general, which amounts to 51.1. Thus more than half the children are unvaccinated. Figures for other counties in England are not yet available, but there can be no doubt that, if not so high as those of Northampton, they must be considerable. The present generation has forgotten the horrors of smallpox from which vaccination has rescued it. So rife was the disease in this country a century ago and so universal the pitting of the face produced by it that it is recorded that a girl was considered pretty if she had escaped the disease and was therefore not pitted. The masses know nothing of the scientific basis of vaccination and readily believe the statement of the antivaccinators that the decline of smallpox is due to improved hygiene and isolation hospitals. Thanks to their persistent agitation a suitable soil for a great epidemic is now prepared.

Enormous Infantile Mortality in Alexandria

Beneficent as British rule has proved in Egypt, it does not appear to have had any effect in diminishing an enormous infantile mortality. According to the report just issued by Mr. E. G. Carpenter, health officer for Alexandria, in the years 1902 to 1907 inclusive, 83,404 children were born, of whom 24,948, or 30 per cent., died in the first year of life. Comparing this mortality of 300 per 1,000 births with that of other countries it is exceeded only by Chili, for which the figure is 326; Russia follows with 268; Austria with 224; England with 150, and Ireland with 103. Comparing Alexandria with some of the larger cities of England the figures are: London 141, Manchester 177, and Preston 244. The majority of the infantile deaths in Alexandria are due to the following causes: 1. Prematurity, lack of development and marasmus; 2, diarrhea; 3, bronchitis and pneumonia. Tuberculosis is low, being only about a third of that of England, but there is thrice the mortality from diarrhea, twice as much from marasmus, thrice as much from rickets, and twice as much from bronchitis. The causes of the high mortality from these diseases are ignorance and neglect of the hygiene of pregnancy, the dirty habits of the natives and their fatalism which prevents them from seeking medical treatment in time.

Professor Osler on the Future of Tropical Medicine

The American ambassador, the Hon. Whitelaw Reid, presided at the opening of the London School of Tropical Medicine, at which was present a distinguished audience. An address was delivered by Professor Osler. The American ambassador in introducing him said he was "an excellent example of what America could do with a Canadian when he was caught young. McGill University brought him to some prominence; he reached the climax of his fame at Johns Hopkins, and then retired into his dignified repose at Oxford." In his address Professor Osler insisted on the importance of sanitation in dealing with subject nations. After referring to the great recent advances in pathology and prevention of tropical diseases he said that two things were necessary to those who took up the heavy burden of securing health in the tropics. First they must have organized centers from which the work might proceed; a model of this sort was the sleeping sickness bureau under the auspices of the Royal Society. Similarly organized central bodies had already dealt with plague and malaria. These organizations should be placed on a permanent basis and unified in some way under a central tropical institute, the different departments of which would be in touch with its workers all over the world. By far the most useful work in British medicine during the past twenty years had been the result of carefully planned expeditions sent out partly by the liberality of the citizens of Liverpool and partly as commissions by the government and the Royal Society. The school in which they were assembled was established ten years and had trained nearly 1,000 men for work in the colonies and dependencies. It had fostered original research in tropical diseases and was an important center for the diffusion of scientific knowledge. He was astonished that such good work had been done on a total capital of less than $200,000. Tropical sanitation would loom larger and larger in the future. England had had the start, but the United States, Germany, France, Holland and Japan were in the field and it behooved the country to equip adequately such a school as that, giving it the necessary professorships, a large hospital, museums and libraries. He also recommended the establishment of subsidiary schools in the tropics in connection with the school. This scheme would not require an endowment of more than $10,000,000.

Milton's Blindness

At the recent Ophthalmological Congress held at Oxford, Professor Dufour of Lausanne read a most interesting paper on Milton's blindness based on an account of his symptoms communicated by the poet to a friend, an oculist in Paris, from whom he expected advice. In 1644 his left visual field was encroached on by shadow which gradually extended until the eye became totally blind. Haloes were seen around flames and motionless objects appeared to float about. The right eye then became involved in a similar way but the pall of darkness was never complete. The upper half of the visual field was first lost. In 1654 there were sensations of faint light which Milton compared with early dawn. No shock or injury has been mentioned in connection with the blindness, but Milton admits that from the age of 12 he worked up till midnight. Professor Dufour thinks that the symptoms point conclusively to detachment of the retina.

Deaths from the Dry Shampoo

The case of the young woman who died while her hair was being shampooed with carbon tetrachlorid has been reported in previous letters (The Journal, July 31, 1909, p. 392, and Aug. 28, 1909, p. 726). The evidence went to show that the shampoo was harmless to healthy persons, but the doubts previously expressed regarding this conclusion have been confirmed by an article subsequently published by Dr. Waller, director of the physiologic laboratory of the University of London and Dr. Veley, a distinguished chemist. They show that carbon tetrachlorid is a very deadly substance and more toxic than chloroform. As a sequel to this case questions were asked in parliament and the government instituted a prosecution against the manager of the hairdressing department and the assistant who gave the shampoo. For the defense it was stated that on learning the dangerous nature of the shampoo the proprietors of the hairdressing establishment had ordered that it was never again to be used. Counsel for the prosecution then withdrew the charge of manslaughter, saying that the object of the prosecution was to bring before the public the dangerous nature of the process and that if any deaths occurred in the future a serious charge would be instituted. Probably some legislation prohibiting its use will follow. The result of this case is that the carbon tetrachlorid shampoo has been entirely abandoned. Before the introduction of the tetrachlorid, petrol (a product practically identical with gasoline) was used for the dry shampoo, but owing to its inflammable nature some deaths from burning occurred and led to its use being prohibited. Carbon tetrachlorid was then adopted as it is non-inflammable, but its poisonous properties were not recognized. Now the petrol shampoo has been used again with a dreadful result. At a French hairdresser's in the West End a woman, aged 23 years, was being shampooed with petrol. The daughter of the hairdresser was in the room engaged in drying some false hair which had been cleaned with petrol. Ignition took place from the burner of the dryer and both women were so severely burned that they died. In addition another woman who was in the room was also burned and lies in the hospital in a critical condition.

The Tragedy of the Workhouse Bath

An extraordinary triple tragedy at the Hemel Hempstead Workhouse has been the subject of a coroner's inquest. Three men, aged, respectively, 56, 54 and 68 years, were given on October 4 a bath at a temperature of 88 or 89 F. by a porter acting under the direction of a nurse. One died twenty minutes later, another died on the same afternoon and the third died four days later. In the last case the connection between the bath and the patient's death was not clearly established. The medical officer of the workhouse stated at the inquest that in the second case he was called to the man and found him in a state of collapse, which would be accounted for by the fact that the bath was given at too low a temperature; the temperature ought not to have been under 98 F. The man was in a serious condition before the bath and the nurse ordered the bath without having obtained the physician's sanction. She pleaded that the doctor had ordered a bath two days previously when the patient was in the same condition. The jury found that the deaths in the first two cases were accelerated by the baths. They considered the nurse was culpably negligent in allowing the administration of a bath to a patient in a serious condition without the consent of the physician and that this negligence was exaggerated by the fact that she took no steps to supervise the bath or to see that the temperature was correct. She was taken into custody on the charge of manslaughter.

Unqualified Dentists

In Great Britain the unqualified dentist still flourishes. Forbidden to use the designation "dentist," he resorts to various subterfuges, such as "tooth specialist," "dental institute," etc. One great advantage he possesses over the qualified denist is that he freely advertises, which the qualified dentist, like the physician, is forbidden to do. As he has no qualification to lose, he is not amenable to the discipline of the General Medical Council. Many of these "irregulars" are unskilled charlatans, who victimize those who are unfortunate enough to fall into their hands. A shocking case of malpractice has recently been the subject of legal action. A firm of unqualified dentists trading under the specious name of "The London Hygienic Institute," employed a canvasser to get patients. The agent induced a foreman baker to enter into an agreement that for the payment of $9 his teeth should be completely and properly dealt with. The man went to the defendants' premises where he saw an assistant, who injected some local anesthetic which had no effect. A few teeth were extracted, causing great pain. Then the patient, in a fainting condition, said he could stand no more, but the operator said he had better have the job finished, and proceeded to extract in all twenty-two teeth. The patient bled so much that when he arrived home he passed from one fainting fit into another, and a physician had to be called. The patient's mouth was much lacerated, and he was so weak from loss of blood that without proper attention he might have died. Later a dentist had to be called. He found that the work of extraction had been most unskillfully done, and that there remained fourteen stumps in the patient's mouth which had to be extracted. For the defense, the operator stated that he had never been to a dental school, but had learned the mechanical part of dentistry in the workshop which he entered when he left school sixteen years ago. He alleged that he had had great experience in tooth extraction; he had drawn about 10,000 teeth a year for the last nine years. He denied that the patient suffered much pain, and alleged that after extracting six teeth he recommended the patient to have no more teeth extracted that day, but to come again, and that he proceeded with the extractions only because the patient insisted on it. The judge in summing up said that the agreement of the institute to extract teeth did not imply any contract to provide a legally qualified operator, but one who would use due skill and care in the operation. The jury returned a verdict against the institute and awarded the plaintiff $250 damages.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 20, 1909.

To Prevent Infection from Medicine Containers

The suspicion has been repeatedly expressed in public that infectious diseases may be communicated by medicine containers, which are returned to the apothecaries and used a second time. These apprehensions have been sustained on the part of the pharmacists, which suggests the idea that the material interests of the pharmacists are involved. The Prussian minister of education has felt himself compelled to request a report from the medical authorities whether such communication of disease has been observed. The report was negative. Nevertheless the minister has notified the district physicians to endeavor to secure, in cases of infectious diseases, the disinfection of medicine containers before refilling, and the burning of covers of wood or celluloid, cork stoppers, powder boxes and other pasteboard articles.

Punishment of Unethical Business Combination by Court of Honor

A large shoe firm of this city engaged a young orthopedist, a former assistant of Professor Hoffa, to give advice to people with diseases of the feet, with the understanding that the physician should be present daily for some hours in the store for the immediate examination of customers, to whom he should give appropriate prescriptions. Naturally the firm made known this engagement with flaring headlines. The Berlin shoemakers' association, which considered its business interests injured in this way, denounced the physician to the Court of Honor and the court reprimanded the doctor and fined him $37.50 (150 marks) on account of his unprofessional contract and his permission of the advertisement of his engagement with the firm.

Relations Between the Size of the Head and the Intelligence of School Children

In the annual report of school physicians of Worms, a nerve specialist, Dr. Bayerthal, takes up the question of the relation between the size of the head and the intelligence of school children. He believes that he has established the fact that excellent intellectual ability accompanies large heads relatively often, less often the small head, and is never found with the very smallest. By very large heads he understands a head of normal shape that measures less than 48 cm. (19.2 in.) in a 7 year-old boy and 47 cm. (18.8 in.) in a girl of the same age, 50.5 cm. (20.2 in.) in a boy of 14, and 49.5 cm. (19.8 in.) in a girl. Among 1,000 children beginning school only 3 boys with circumference of 49.5 cm. and 2 girls with 48 cm. could be regarded of good capacity among a total of 77 children who could be rated in this class. On the other hand an unusually large head is naturally no sign of great intelligence as it is well known that the size of the head is not infrequently increased by rachitis. Bayerthal says that conclusions drawn from the size of the skull are permissible only to this extent, that we may say that with large heads all grades of intellectual capacity may occur, with heads of middle size an ability that is above the average may be found, but a marked development of the intelligence is excluded, as a rule, and that this does not occur with small heads. The reliability of the investigations of the doctor remains to be seen. The experience of other nerve specialists has shown that marked variations and errors may readily occur in tests of intelligence.

The Political Boycott of Alcoholic Liquors

The last convention of the "social-democratic" party at Leipsic on motion of the executive committee adopted a resolution recommending to the members of the party a boycott on alcoholic liquors. While the principal influence leading to this resolution was rather partisan politics and especially the fight against the agricultural distillers, yet a hygienic factor contributed to the adoption of the resolution and the result of such a boycott, if it is actually generally carried out, would surely redound to the benefit of the public. In the circular that has been distributed for this purpose among the German workmen the obvious fact is stated that alcoholic liquors are the most dangerous poison for the people: "Whisky is not a food, not a luxury, not nutritious material. Whisky gives no comfort but only deception and aggravation of misery. Brandy destroys the body and soul of numerous members of our class, destroys the happiness of families and the joy of life, therefore away with spirits!" That the holders of the liquor license are not specially pleased with the resolution of the party is easy to understand; for financial interests overbalance those of party discipline. It remains to be seen what the effect of this action on the consumption of liquor will be in the course of the next year.

Injuriousness of So-called Spotted Eggs

As is well known, fresh eggs are recognized by entire translucency on candling. Spotted eggs show larger or smaller variously colored spots—generally dark or black. These spots are produced in the eggs generally by the development of mold, less frequently by yeast. (Professor Podwyssotzky has claimed that they could be produced also by the development of *Coccidium avium* but this has been disputed.) As these eggs are purchased by dealers in large numbers and sold to bakers and confectioners at a low price, the scientific deputation for medicine, at the request of the chief of police of this city, has investigated the question as to whether eggs of this kind are injurious to health. The report presented by Professor Gaffky and privy councillor Abel, in the name of the scientific deputation, states that spotted eggs without exception must be regarded as spoiled, but there are no reliable observations regarding injury to health following their use. The fact, however, cannot be excluded that under special circumstances, particularly when a lesion of the digestive apparatus is already present, the use of spotted eggs may be injurious to health. The parts that are evidently penetrated by the fungus growth are to be regarded as unusable, the part that appears unchanged or slightly changed to the naked eye cannot be said to be unusable but should always be regarded as inferior and should be excluded from free sale. In case their use for food or the preparation of food is permitted, provision must be made that the buyer shall not be left in doubt as to the character of the eggs and of the food prepared with them. That a question of this sort is of importance for the population of Berlin is shown by the circumstance that in greater Berlin about 35,000,000 dozens of eggs are imported annually. About 95 per cent. of these come from foreign countries, principally from Russia and Galicia, next from Hungary and the Balkan states. Eggs coming from southern Russia and Galicia are at least three to four weeks old and those from the most distant Russian districts must be two or three weeks on the way. Under such conditions it is easy to see that the number of spoiled eggs brought into Berlin must be large.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Oct. 21, 1909.

Relations of Alcoholism and Criminality

The Academy of Medicine resumed its weekly sessions October 5. Dr. Ballon, physician in chief of the Sainte Anne Asylum, read an interesting paper on "Alcoholism as an Etiologic Factor in Criminality." As expert physician to the courts he has had to examine, in the course of the last twenty years, 151 individuals accused of homicide or attempted homicide. Among them there were seven who simulated mental aberration and nine in whose defense mental disturbance was wrongfully pleaded. Out of the 135 accused remaining, there were 120 males and only 15 females. In this number there were 49 cases of alcoholic intoxication (chronic, acute, and subacute alcoholism, pathologic drunkenness, simple drunkenness). The liquor drinkers thus formed more than a third of the total number of those accused of homicide. The influence of alcohol in the production of homicide appears still more considerable if the antecedents of the accused not personally intoxicated by alcohol are examined. A large number of epileptics and feeble-minded are children of alcoholic parents. Dr. Ballon lays particular stress on the fact that acts of violence may be committed not only by chronic alcoholics with or without acute or subacute crises but also by casually intoxicated individuals.

Cold Storage and Refrigeration Congress

The French Association for Refrigeration (*Association française du froid*) held its first congress at Lyons, October 1-3. Various questions were discussed bearing on the extension in France of systems of cold storage and refrigerator cars, which have had such great development in the United States and in England, especially the question of refrigerating food for the army. An army physician, Dr. Vitry, said that attempts at cold storage of fresh meat had already been satisfactorily made in the fortified places on the eastern border. The employment of means for the refrigeration of meat during transportation to the troops in the field has also given excellent results. These attempts deserve to be made on a wider scale in order to lessen the consumption of inferior preserved meats in the army. Dr. Vitry commends the use of frozen meats during war, as it will obviate the necessity of having herds of cattle follow the army. He also recommends brief cold storage for fresh meat for army rations during peace.

French Students in American and English Universities.

Under the title "Should French Students Attend the Universities of the United States or Those of Great Britain?" the *Revue internationale de l'enseignement* published some time ago a series of letters from Oxford, Manchester and Edinburgh professors in answer to an article "French Students in the United States," that M. E. Vigier had previously published in the same periodical. In this article M. Vigier advises French students who desire to complete their studies abroad to go to the American rather than the English universities. The chief characteristic and advantage of instruction in the United States, according to M. Vigier, is the closeness of the relations between the professors and the students. In America, the professors are much more numerous in proportion to the number of students than in the University of Paris and they devote more hours to teaching, which permits them to follow the progress of each student very closely. M. Vigier adds that "a foreigner is received more cordially in the United States than in England, not only in the universities, but everywhere."

This article naturally aroused protests from the English university world. Mr. Hartog, secretary of the University of London, thinks that there are certain advantages in learning pronunciation and style from English rather than from American students; but he says, "There is no doubt that they are intellectual centers of the first rank." The opinion of H. J. Darnton-Fraser, convener of the International Academic Committee of the University of Edinburgh is still more favorable to the American universities. "The advice given to French students to study in some American university has its good side. There are subjects (surgery and the practical sciences in particular) which can be studied nowhere else with so much profit as in certain institutions of the United States. From the point of view of general education, and enlargement of ideas, a sojourn in America presents incontestable advantages to a young European."

Regulations of the Opium Trade in Madagascar

On the suggestion of Dr. Augagneur, the governor-general of Madagascar, the colonial minister, has recently issued a decree for a strict regulation of the importation, the sale, and holding in stock of opium in this colony. A decree of Aug. 31, 1908, prohibited opium dens, but this prohibition would have remained altogether ineffective if the administration had not been able to exercise a very close control over the drug itself from the time of its introduction.

The Second Congress of the White Cross

The second international congress for the repression of adulteration in food, organized by the Geneva White Cross Society, of which I mentioned the general purpose in a previous letter (The Journal, Oct. 9, 1909, liii, 1200), opened October 18 in the buildings of the Paris medical school, under the presidency of M. Ruau, the Minister of Agriculture. About 2,000 members of the congress were present, among whom were fifty-two delegates from the twenty-three countries officially represented.

M. Vuille, president of the society, made the opening speech, saying that it seemed probable that an international understanding might be reached for the protection of foodstuffs, such as had been secured in the case of the Red Cross. Professor Bordas, president of the congress, then explained the program. The congress will take for the point of departure of its labors the academic definition of pure food adopted last year at the Geneva congress. In order to define what is commercially pure food, the executive committee of the congress has asked the various French commercial and manufacturing societies to study carefully various processes that their experience has led them to consider indispensable to the preparation of commercially pure food. All permissible processes once fixed and enumerated, food which has been submitted to other processes will be considered as adulterated.

The congress will then collect data in regard to the required legislation and administration on commerce and production with which the third and fourth congresses will have to deal. These desiderata will be previously examined by the section of hygiene under the presidency of Professor Landouzy, dean of the Paris medical school.

The Minister of Agriculture believes that some years hence all civilized countries will have established identical laws for the suppression of adulteration and the preservation of public hygiene. These international regulations for the repression of adulteration are necessary, in fact, for dealing adequately with cosmopolitan adulterators of food. At present there are in every country unscrupulous manufacturers who prepare adulterated foods exclusively for foreign consumption, knowing that in the absence of international agreement such products can pass the frontiers with impunity. The courts are often helpless and sometimes acquit solely because the undoubted infraction of the law has been committed in a foreign country, and even if the case goes against the defendant, the judgment is without effect because the offender cannot be apprehended on foreign soil. Under the new laws, drawn up under the influence of the congress, no offender will be able to escape; and it is already possible to foresee, as M. Ruau does, the time when an international agreement of the White Cross will protect honest commerce in all countries, just as the Red Cross guarantees that all the wounded on the fields of battle shall be safeguarded by the belligerents.

Criminality and Alcoholism

The *Journal officiel* is now publishing the report of the Minister of Justice in regard to crime in 1907. This report shows a considerable increase in crimes against persons. The total number of cases before the courts in 1907 was 2,357, or 214 more than in 1906. The 2,357 cases in the year 1907 may be divided into 1,395 (59 per cent.) of crimes against persons and 962 (41 per cent.) of crimes against property. The 2,143 criminal cases of 1906 may be divided into 1,187 (55 per cent.) of crimes against persons and 956 (45 per cent.) of crimes against property. Two classes of cases, especially, show an increase in 1907; that of murders, in which the increase is 22.5 per cent. and that of unintentional manslaughter. the total has increased from 162 in 1906 to 190 in 1907, an increase of 17.2 per cent. This increase must be attributed especially to alcoholism. The greatest part of the official report is devoted to the relations between alcoholism and criminality. The statistical results on which this document is based are gathered by the employment of the new system of individual records which I mentioned in one of my letters (The Journal, Jan. 23, 1909, lii, 310) namely, the following: Whenever a crime or a breach of the peace is reported to them, the magistrates have to record on a special report blank (1) if the offense was committed under the influence of liquor and (2) if the accused is a confirmed alcoholic or an occasional drunkard. It appears from the statistics thus gathered that the proportion of crimes against property committed under the direct influence of alcohol is rather small, barely 5.3 per cent. This is not true of crimes against persons, the proportion of which averages 14 per cent. For certain crimes of this category, the percentage is much larger. Thus, the proportion of parricides committed under the influence of liquor is 29 per cent., manslaughter 24.5 per cent., murders 21.9 per cent., etc. If the proportion of alcoholics and drunkards among those accused is calculated, it is found that out of every 100 accused of parricide, there are 31 alcoholics; among those accused of rape or offenses against decency, the proportion is 33.3 per cent., etc.

In studying criminality according to professional groups, one finds that the occupations furnishing the greater number of drunkards show the largest proportion of criminals. Fishermen furnish the largest proportion of alcoholic and drunkard delinquents; then come miners; then the class of day laborers in cities; and then workingmen in various industries. The regions in which crimes of violence most frequently result from alcohol are those of the northeast, north and northwest; those in which alcohol has the least influence are in the center, south and southeast.

Change of Date of International Congress of School Hygiene

The Third International Congress of School Hygiene, the opening of which was set for March 29, 1910 (The Journal, Aug. 7, 1909, liii, 468) will be held in Paris, Aug. 2 to 7, 1910. In view of the impossibility of finding a building large enough to contain the exposition of hygiene to take place at the same time as the congress, the committee of organization was under the necessity of either omitting the exposition entirely or of changing the date of the congress. Believing that the exposition would be of great interest and would give to all those interested in educational hygiene an exceptional opportunity of informing themselves in regard to the various types of educational architecture and furniture, the committee preferred to postpone the congress to the time when vacation begins in France.

Protection of Hands in Surgery.—Some surgeons have advocated protective coatings to the hands, but these coatings encourage and intercept perspiration, and in spite of the thickness they invariably crack or wear off during the operation, unloading an army of virulent organisms fresh from the deeper recesses of the skin, directly into the wound.—C. E. Tennant, in *Denver Medical Times and Utah Medical Journal.*

Pharmacology

RESINOIDS AND CONCENTRATIONS

Report of the Council on Pharmacy and Chemistry

In view of the fact that there is much misunderstanding as to the character of the so-called resinoids and concentrations, and also as to the meaning of the suffix "in," as used in pharmacology, it has been recommended that the following report be published. The recommendation was adopted.

W. A. Puckner, Secretary.

MISUSE OF THE ENDING "IN" AS APPLIED TO SO-CALLED RESINOIDS AND CONCENTRATIONS

The endings "in" and "ine" are commonly used in connection with the names of definite chemical substances. In naming the vegetable principles (substances), the ending "ine" has commonly been used to indicate basic (alkaloidal) substances and the ending "in" to identify non-basic (glucosidal, neutral, bitter) substances, and this system of nomenclature is followed in the U. S. Pharmacopeia. While both endings have thus been used to indicate definite, chemical substances much confusion has been caused by using the ending "in" in connection with a class of pharmaceutical preparations (galenicals) known as "resinoids" or "concentrations." This class of preparations is obtained by preparing an alcoholic tincture of a drug, reducing the tincture to a soft extract and collecting the precipitate which is formed when the extract is poured into water. "Podophyllin" may be taken as the type of this class of preparations. "Podophyllin" is not a definite chemical substance, as the ending "in" would imply, but a somewhat variable mixture of the resinous constituents of the drug podophyllum (Mandrake). The name "resin of podophyllum" applied in the U. S. Pharmacopeia to an almost identical product, is more rational. While the term "podophyllin," therefore, is unscientific and incorrect, it has been established through usage by which the term "in" has come to be applied to non-alkaloidal mixtures known to contain the active constituents of the drug, and in a measure has ceased to be misleading.

There is no justification, however, for a considerable number of titles included with "resinoids" or "concentrations" by some manufacturing pharmacists. While such drugs as juglans (butternut bark), aletris, baptisia, etc., do not contain any appreciable amount of resinous material and do not, therefore, owe to their resin, to any extent, any medicinal activity they may possess, yet the title, "juglandin," "aletrin," "baptisin," etc., are given by the manufacturers to the "concentrations" or "resinoids" of these drugs. From the general descriptions of the "concentrations" or "resinoids" which appear in the catalogs of the manufacturers referred to it is evident that they realize the inconsistency of their position in the matter, for the attempt is made to assign a new meaning to the terms "resinoid" or "concentration." Thus the following description of these products is found in the price list of a well-known manufacturing firm and agrees in general with the descriptions found in the price lists of other manufacturers of this class of preparations: "While some of these (resinoids and concentrations) represent a pure resin and others an impure alkaloid, by far the greater number are a combination of the various active proximate principles contained in the drug which they represent."

When it is considered that the chemical nature of the active principle or principles of the drugs, from which these preparations are made, if they possess any, has not been determined, the reliance which is to be placed on the claims of the manufacturers is obvious. While it is not definitely so stated, it is to be inferred from the descriptions that these products are, in the main, extractive preparations of the drugs. It should be noted, however, that the drug strength (the amount of drug represented by a given amount of the preparation) is not stated; such preparations are thus secret in their composition and should be classed with other preparations of unknown composition, that is, as nostrums.

OXYDONOR

A Fake Cure and What the Courts Think of It

Of therapeutic fakes there are, in the main, two kinds—medicinal and anti-medicinal. The individuals who get "bitten" on the former frequently turn to the latter, for credulity must have an outlet. One of the most impudent fakes of the anti-medicinal type is the "Oxydonor," which was foisted on a long-suffering but easily humbugged public by one "Dr." Hercules Sanche. This modern Hercules tackles the Augean stables of disease by means of his newly-discovered "science" of "Diaduction" which is "practiced with Pocket Diaductive Instruments and Devices"—to-wit: the Oxydonor, price $25.

HOW IT WORKS

The "instrument" consists of a cylindrical portion and a disc portion, the two being connected by a flexible wire. Its *modus operandi* is as follows: The cylinder is placed in cold water while the disc is attached to the patient's ankle. Immediately the cylinder begins to "draw the positive fluid from you, thus creating a vacancy in the system. . . ." It would seem that there are then two vacancies, for we must presuppose the presence of one vacancy in any individual who will part with $25 for such a silly piece of charlatanry. When this induced vacancy—as distinguished from the natural—has been secured, it "leaves you 'negative'" (this has no reference to the financial condition). Being thus "negative," the oxygen of the air "has an affinity for the negative state" and immediately you begin to "absorb the oxygen in the skin and tissues." Then, of course, you get well.

So much for the fake itself.[1] It seems incredible that rational human beings would exchange good money for such a self-evident piece of quackery, but its wily "inventor," remembering Barnum's aphorism, knows better. The United States courts have decided that the "instrument" is not of sufficient value to entitle "Dr." Sanche standing in a court of equity.[2] But the crop of "suckers" is perennial and the sale of this nickel-plated fake goes merrily on.

Very recently an attempt was made in New York to invoke the medical practice act of that state against this transparent humbug. The case fell to the ground because (1) Sanche himself does not apply his cure-all to the patient, and (2) his methods "smack more of the retail vendor or of business methods than of the medical practitoner", and (3) because, in the opinion of the court, the framers of the medical practice law did not "intend to inhibit every one but recognized physicians from publicly recommending manufactures or products as beneficial physically or as curatives or correctives of human disease, pain, injury, deformity or physical condition."

WHAT THE JUDGE THOUGHT OF IT

Whatever satisfaction the Sanche Company may get out of the final decision, it will find small cause for rejoicing in reading the judge's summing up. Said the judge in referring to this fake:

"There has been a studied attempt to stimulate sales by fulsome praise, vague explanations of the force and virtue of 'diaduction,' and exuberant representations of the benefits derivable by using the invention . . . all to attract attention of the curious and credulous."

After quoting some of the claims made by the exploiters of this humbug, the judge goes on to say: "From the record evidence we have tried to get some intelligent idea of 'diaduction.' We have failed utterly. Mr. Justice Shiras, now of the U. S. Supreme Court, with the letters patent before him did not succeed any better for . . . he said: 'I am entirely certain that I do not understand the working of this so-called force, if any such exists, and I greatly doubt whether Dr. Sanche has any clear conception of the force or principle which he seeks to describe under the name of "diaduction."'"

All of which seems to mean, when summed up in non-legal phraseology, that while the learned judges have no doubt that the oxydonor is a fake, and that Dr. Sanche is a faker, they are unable so to stretch the law as to convict the Sanche Company of the illegal practice of medicine.

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1. A full description of this article was given by Dr. N. C. Morse, Eldora, Ia., in The Journal, Dec. 1, 1900.
2. See also The Journal, Jan. 11, 1902.

Hibbard Pleads Guilty

The Boston Medical Institute and the Bellevue Medical Institute were two names used on separate entrances to a single quack concern in Chicago. The institute purported to treat the "private diseases of men," but a federal court decided that the business was a scheme for obtaining money through the mails by means of fraudulent pretenses. E. R. Hibbard—who seemed to be the owner—was sentenced to two years' imprisonment and to pay a fine of $1,500 and costs. He, of course, appealed, and his case was remanded for a new trial. Recent issues of Chicago papers state that, rather than undergo the new trial, Hibbard has pleaded guilty. The government has decided that payment of the fine of $1,500 and costs would be sufficient punishment. Details of this concern appeared in The Journal, Oct. 17, 1908, and the matter has been reprinted in pamphlet form.[1]

Miscellany

Embryonic Development.—Maximilian Herzog discovered an impregnated ovum in the uterus of a young Filipino woman who met death as the result of an accident. He made a very thorough and painstaking examination of the specimen, which was almost identical in size and type with the Peter's ovum. These findings, as published in the *American Journal of Anatomy*, July, 1909, may be summarized as follows: A human ovum at the earliest stage of normal development hitherto known, a stage which, perhaps, represents one to two weeks after fertilization, was found interstitially embedded in the decidua. It was incompletely separated from the cavity of the uterus, because it was very superficially embedded, and its outer pole was protected by a thin, incomplete decidua capsularis or a coagulum only. The ovum, after having been fertilized, had evidently been transported to or near to the place where it was found embedded. Herzog advances the theory that by the aid of an ectodermal trophoblast shell, which probably secretes an enzyme destructive to the epithelial cells and connective tissues of the uterine mucosa, which is then in a premenstrual condition of congestion and glandular hypertrophy, the ovum produces necrobiosis or coagulation necrosis in the structures of the mucosa. At the same time the trophoblast, exhibiting great proliferative energy, penetrates through the necrotic tissue into the connective tissue of the mucosa. Here the phenomena of edema and of violent hemorrhagic inflammation are now established. Veins and capillaries become enormously dilated, the blood current becomes sluggish, edematous infiltration becomes pronounced. The ovum automatically orients itself, so that the embryo comes to be situated toward the muscularis. The proliferating trophoblast, with its syncytium provided with cilia or rods, at this time begins to break into and open up dilated maternal capillaries. Maternal blood now makes its way into the trophoblast; whether it here finds preformed cavities or whether it forms these cavities in a loose protoplasm in consequence of hydrostatic pressure, is not known. While the trophoblast opens up the enlarged maternal blood lacunae, the hypertrophy of the mucosa, as a whole, goes on. The gland spaces become large and cystic, their ducts lead to the surface in a tortuous manner. A separation into a spongiosa and compacta becomes early established, and in the latter some cells early assume a marked decidual character. The ovum is now interstitially embedded in the mucosa and surrounded by a border zone of an admixture of still attached or detached trophoblast elements, degenerating fixed maternal cells, both connective tissue decidual cells and glandular epithelia. In this zone are also enormously enlarged maternal blood vessels, cystic, blood-filled gland spaces, and free blood. The ovum almost floats, as it were, in a lake of blood partly contained in the trophoblast cavities, partly in the cystic maternal gland spaces, partly freely infiltrating more or less all of the tissue in the direct neighborhood of the growing germ.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

California: Los Angeles, December 7. Sec., Dr. Charles L. Tisdale, Butler Bldg., San Francisco.

Delaware: Regular, Dover, December 14; Homeopathic, Wilmington, December 14. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

Iowa: State House, Des Moines, Dec. 7-9. Sec., Dr. L. A. Thomas.

Kentucky: The Armory, Louisville, December 14. Sec., Dr. J. N. McCormack, Bowling Green.

Maryland: 1211 Cathedral St., Baltimore, December 14-17. Sec., Dr. J. M. Scott, Hagerstown.

Pennsylvania: Regular and Homeopathic, Philadelphia, December 14-17; Eclectic, Harrisburg, December 14-17. Secretary of the Medical Council, Nathan C. Schaeffer, Harrisburg.

Virginia: Lynchburg, Dec. 14.17. Sec., Dr. R. S. Martin, Stuart.

Cooper Medical College Still Existing

Word from Dr. Henry Gibbons, Jr., of San Francisco, states that although Cooper Medical College will eventually turn over its property to the Leland Stanford Junior University, there are still three classes to be graduated before the final transfer will be made. Therefore, Cooper Medical College will continue to appear in our lists of medical colleges until after the class of 1912 shall have been graduated.

A College That Should Have Been Included

In the list of colleges "recognized as in good standing" by the American Institute of Homeopathy, in The Journal, Aug. 14, 1909, page 554, the Atlantic Medical College of Baltimore was omitted in accordance with corrected copy received from the office of the secretary, Dr. J. Richey Horner, of Cleveland. A letter recently received from Dr. Horner, however, states that he did not authorize the omission and that the college named should have been included in the list.

A Denver Medical School Closes Voluntarily

At a recent meeting of the board of directors and of the faculty of the Denver College of Physicians and Surgeons, it was decided by unanimous vote to close the college permanently. The reasons given for the action were that standards of admission to medicine were necessarily becoming higher, that to train medical men properly required a large number of skilled instructors, that to equip the laboratories properly was a matter of enormous expense, and that there was no real necessity of maintaining the college.

This is another instance in which the members of a medical college faculty, at both personal and financial sacrifice, have decided to close their school rather than have it continue as a second or third rate institution.

It has also been reported that two colleges, the Sioux City College of Medicine, Sioux City, Iowa, and the Physio-Medical College of Indiana, Indianapolis, have been suspended. This leaves only one existing physiomedical college and reduces the total number of medical colleges in the United States to 141.

Mississippi May Report

Dr. S. H. McLean, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, May 11-13, 1909. The number of subjects examined was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 226, of whom 109 passed, including 52 non-graduates, and 116 failed, including 66 non-graduates. The following colleges were represented:

PASSED		
College	Year Grad.	Total No. Examined.
Univ. of Alabama	(1, 1893) (1, 1894) (1, 1907) (2, 1909)	5
Rush Medical College	(1, 1870) (1, 1908)	2
Chicago Homeopathic Medical College	(1897)	1
College of Physicians and Surgeons, Chicago	(1906)	1
Kentucky School of Medicine	(1908)	1

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[1] A copy of this pamphlet, "The Boston Medical Institute," will be sent, postpaid, for four cents.

Louisville Medical College	(1906)	1
Hospital College of Medicine, Louisville	(1904)	1
University of Louisville	(1, 1908) (1, 1909)	2
Tulane University [illegible]	(6, 1909)	7
Woman's Medical [illegible]	(1899)	1
Mississippi Medical [illegible]	(2, 1909)	3
Cornell University Medical College	(1900)	1
Columbia [illegible] and Surg.	(1906)	1
University [illegible]	(1907)	1
College of [illegible] Memphis	(1907)	1
University [illegible] 1, 1907)	(1, 1908)	3
University [illegible]	(1908)	2
Vanderbilt University	(1909)	3
Memphis Hospital Medical College	(1, 1894) (1, 1895) (1, 1904) (1, 1908) (14, 1909)	18
Meharry Medical College	(1907)	1
University of Tennessee	(1905)	1
FAILED		
[illegible] sity	(1908)	1
[illegible] e	(1904)	1
[illegible] isiana	(1908)	1
[illegible] 1907)	(3, 1908) (9, 1909)	14
[illegible] cians and Surgeons	(1908)	1
[illegible]	(1908)	1
[illegible] College	(1,1903) (1, 1906) [illegible]	12
[illegible]	(1,1902) (1, 1903) (1, 1905) (1. 1906) (1, 1909)	5
University of Tennessee	(1909)	2
College of Physicians and Surgeons, Memphis	(1909)	1
Meharry Medical College	(2, 1907) (4, 1908) (3, 1909)	9
University of the South	(1906)	1
University of Virginia	(1908)	1

Georgia October Report

Dr. E. R. Anthony, secretary of the Regular Board of Medical Examiners, reports the written examination held at Atlanta, Oct. 12-13, 1909. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 80. The total number of candidates examined was 13, of whom 12 passed and 1 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Southern Medical College, Atlanta	(1897)	87
Atlanta College of Physicians and Surgeons	(1909)	84
Atlanta Medical College	(1893)	92
College of Physicians and Surgeons, Boston	(1908)	82
Leonard Medical School	(1909)	87
Medical College of Ohio	(1907)	88
Jefferson Medical College	(1909)	89
Chattanooga Medical College	(1901)	82
Meharry Medical College	(1895) 81; (1907)	80
University of the South	(1906)	80
University College of Medicine, Richmond	(1909)	90
FAILED		
Knoxville Medical College	(1908)	75

Association News

NEW MEMBERS

List of new members of the American Medical Association for the month of October, 1909:

ALABAMA

Blackshear, R. D., Dothan.
Cowan, S. C., Union Springs.
Dean, T. J., Union Springs.
Hilliard, C. W., Dothan.
Lay, H. T., Montgomery.
May, W. L., Maben.
Peterson, J. J., Mobile.
Pollard, C. T., Montgomery.
Wood, J. H., Attalla.

ARKANSAS

Baines, Swartz, Bergman.
Crow, M. T., Ingalls.

CALIFORNIA

Byington, F. S., Los Angeles.
Fairchild, F. D., Los Angeles.
Francis, W. V. C., Los Angeles.
French, J. R., Los Angeles.
Gladding, C. F., Sacramento.
Johnson, P. V. K., Los Angeles.
Newcomb, R. H., Pasadena.

DISTRICT OF COLUMBIA

Schneider, E. C., Washington.

FLORIDA

MacKethan, D. G., Tampa.

GEORGIA

Hawkins, J. S., Savannah.
Kitchens, T. Neal, Columbus.
Martin, F. M., Shellman.
Thomas, M. R., Savannah.
Walker, Sidney, Dublin.

ILLINOIS

Anderson, S. L., DeKalb.
Boots, F. W., Hanover.
Burgess, C. O., Monmouth.
Culver, D. D., Aurora.
Culver, G. S., Sandwich.
Jones, C. D., Aurora.
Oleson, R. B., Lombard.
Reder, A. R., Aurora.

INDIANA

Colglazier, G. G., Leipsic.
Marshall, R. E., Elwood.
McFarlin, J. T., Williams.
Wickens, Mary, Richmond.

IOWA

Burke, C. B., Atlantic.
Conrad, Belle, Webster City.
Halstead, F. R., Muscatine.
Hawley, O. B., Corning.
Hoag, H. M., Garner.
Landes, L. J., Grand River.
Lange, A. F., Braddyville.
Leonard, B. B., Holstein.
Mighell, N. E., Marshalltown.
Parker, A. W., Shenandoah.
Rumbaugh, G. T., Villisca.
Thompson, C. E., Marne.

KANSAS

Caldwell, J. S., Kingman.
Emerson, F. G., Wellington.
Gage, G. R., Hutchinson.
McGee, C. J., Leavenworth.
Perkins, Anna, Eldorado.
Thompson, S. H., Kansas City.

KENTUCKY

Daily, H. J., Owingsville.
Haack, O. B., Louisville.
Ott, C. F., Louisville.

LOUISIANA

Pothier, O. L., New Orleans.

MAINE

Haskell, W. L., Lewiston.

MARYLAND

Esker, H. H., Baltimore.
Sanderson, J. W., Baltimore.

MASSACHUSETTS

Cote, H. J., Boston.
Dearborn, G. V. N., Cambridge.
Giddings, H. G., Boston.
Schmidt, R. D., Boston.

MICHIGAN

Baskett, L. W., Ann Arbor.
Chisholm, G. W., Pontiac.
Coffin, L. E., Iron Mountain.
Evans, W. A., Bellaire.
Howe, L. W., Pellston.
Marshall, W. H., Boyne City.

MINNESOTA

Haverfield, A. R., Minneapolis.
Leavitt, H. H., Minneapolis.
Worthing, I. E. M., Austin.

MISSOURI

Neville, E. J., St. Louis.
North, W. R., St. Louis.
Reber, L. W., St. Louis.
Sahlender, O. L., St. Louis.

NEBRASKA

Davies, C. H., Ingleside.
Foster, R. H., Prosser.
Hull, C. A., Omaha.
Wenger, E. S., Lincoln.

NEW HAMPSHIRE

Baker, N. C., Milford.
Fitch, E. M., Claremont.

NEW JERSEY

Cosgrove, S. A., Jersey City.
Faulkner, M. R., Vineland.
Kerns, F. J., Newark.

NEW YORK

Botsford, L. B., Brooklyn.
Bowles, F. J., New York City.
Clarke, L. V., Far Rockaway.
Curry, Stanton, Peekskill.
Holly, I. MacM., Brooklyn.
Potter, J. H., Buffalo.
Smith, L. H., Palmyra.
Trudeau, E. L., Saranac Lake.
Wagner, J. J., Brooklyn.

NORTH CAROLINA

Guerard, A. R., Flat Rock.
Powell, R. A., Caroleen.

NORTH DAKOTA

Law, H. W. F., Hannah.
McKay, J. A., Clyde.

OHIO

Sandoe, DeNevin, Columbus.
Ulmer, C. A., Bucyrus.
VanWinkle, B. L., Belpre.

OKLAHOMA

Antle, H. C., Renfrow.
Swank, J. R., Coldwater.

PENNSYLVANIA

Brice, P. J., New Castle.
East, A. F., Reading.
Hogue, J. D., Altoona.
Hutt, W. H., Philadelphia.
Keller, A. H., Philadelphia.
Marshall, C. C., Pittsburg.
Roland, Charles, Reading.

RHODE ISLAND

Howe, G. J., Central Falls.

SOUTH CAROLINA

Bailey, T. W., Greenville.
Black, D. S., Columbia.
Wilson, E. R., Sumter.

TENNESSEE

Frayser, B. H., Sewanee.
Jones, D. L., Dresden.
McFall, R. J., Cumberland City.
Pollard, T. G., Nashville.
Robbins, C. D., Gordonville.

TEXAS

Turner, J. S., Dallas.

UTAH

Light, C. A., Salt Lake City.

VERMONT

Wakefield, Alice E., St. Johnsbury.

VIRGINIA

Brock, C. W. P., Richmond.

WASHINGTON

Cameron, S. D., North Yakima.

WEST VIRGINIA

McGuire, J. P., Clarksburg.
Rowsey, J. H., Huntington.
Wilson, J. E., Clarksburg.

WISCONSIN

Beech, G. D., Baraboo.
Birkl, J. A., Milwaukee.
Pratt, E. C., Casco.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

LITERATURE ON PELLAGRA

To the Editor:—I desire to refer to the back numbers of THE JOURNAL containing articles on pellagra. Not having an index number, I am unable to tell in which numbers these articles may be found.

C. R. BELL, Peoria State Hospital.

ANSWER.—The following articles and editorials have appeared in THE JOURNAL:

Searcy, George H.: An Epidemic of Acute Pellagra, THE JOURNAL A. M. A., July 6, 1907, xlix, 37.

Merrill, T. C.: A Sporadic Case Diagnosed as Pellagra, ibid, Sept. 14, 1907, xlix, 940.

Bellamy, R. Harllee: Pellagra; Its Occurrence in This Country; Report of Cases, ibid, Aug. 1, 1908, li, 397.

Vienna Letter: Governmental Precautions Against Pellagra, ibid, Aug. 1, 1908, li, 420.

Moore, N. M.: Pellagra; Report of Case, with Remarks on Etiology, ibid, Sept. 26, 1908, li, 1076.

Cole, H. P.: Transfusion of Blood in a Case of Pellagra, ibid, Feb. 20, 1909, lii, 632.

Walker, N. P.: Clinical Features of So-Called Acute Pellagra, ibid, July 3, 1909, liii, 15.

Wood, Edward Jenner: The Appearance of Pellagra in the United States, ibid, July 24, 1909, liii, 274.

Williamson, O. L.: Pellagra in Arkansas, ibid, Aug. 28, 1909, liii, 717.

Vienna Letter: Pellagra in Austria, ibid, Sept. 4, 1909, liii, 808.

Editorial: Treatment of Pellagra, ibid, Sept. 25, 1909, liii, 1033.

Hewitt, J. H.: Pellagra in Virginia, ibid, Oct. 2, 1909, liii, 1085.

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Guyot, G.: Experimental Pellagra, ibid, Aug. 18, 1908, xxix, No. 93.

Savini-Lojani, L.: The Blood in Experimental Pellagra, ibid, Sept. 6, 1908, xxix, No. 107.

Nicolas, J., and Jambon, A.: The Syndrome of Pellagra, *Ann. de dermat. et de syph.*, 1908, ix.

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Taylor, J. H.: Protozoan Theory of Pellagra, *Jour. South Carolina Med. Assn*, November, 1908; abstr. in The Journal A. M. A., Jan. 9, 1909, lii, 167.

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Whaley, E. M.: Examination of the Eyes in Eighteen Cases of Pellagra; *Jour. South Carolina Med. Assn.*, November, 1908.

McCampbell, J. M.: Theory as to the Cause of the Recent Appearance in this County of Pellagra, ibid, November, 1908, abstr. in The Journal A. M. A., Jan. 9, 1909, lii, 168.

Searcy, G. H.: Pellagra in the Southern States, *New Orleans Med. and Surg. Jour.*, December, 1908.

Randolph, J. H.: Pellagra and Pellagrins, *Arch. Int. Med.*, January, 1909; abstr. in The Journal A. M. A., March, 6, 1909, lii, 801.

Babes, V., Vasiliu, A., and Gheorghus: Treatment of Pellagra with Atoxyl plus Arsenic Trioxid, *Berl. klin. Wchnschr.*, Feb. 8, 1909, xlvi, No. 6.

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Thayer, W. S.: Pellagra in Maryland, *Bull. Johns Hopkins Hosp.*, July, 1909; abstr. in The Journal A. M. A., July 31, 1909, lii, 414.

Alsberg, C. L.: Agricultural Aspects of the Pellagra Problem in the United States, *New York Med. Jour.*, July 16, 1909; abstr. in The Journal A. M. A., May 8, 1909, lii, 1537.

Lavinder, C. H.: Etiology of Pellagra, *New York Med. Jour.*, July 16, 1909; abstr. in The Journal A. M. A., May 8, 1909, lii, 1537.

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Bondurant, E. D.: Report of Nine Cases of Pellagra, *Med. Rec.*, Aug. 21, 1909; abstr. in The Journal A. M. A., Sept. 4, 1909, liii, 813.

Bass, C. C.: Pellagra; Report of Eleven Cases from Mississippi, *New Orleans Med. and Surg. Jour.*, September, 1909.

Wollenberg, R. A. C.: Pellagra in Italy, *Pub. Health Rep.*, July 23, 1909; abstr. in The Journal A. M. A., Oct. 16, 1909, liii, 1307.

Drewry, W. F.: Pellagra; Report of Fourteen Cases, *Virginia Med. Semi-Month.*, Sept. 24, 1909.

Lavinder, C. H.: Prognosis and Treatment of Pellagra, *Jour. South Carolina Med. Assn.*, September, 1909.

Lavinder, C. H.: Pellagra, *Pub. Health Rep.*, Sept. 1909.

Carter, Marion H.: Pellagra, *McClure's Magazine*, November, 1909, xxiv, 94.

LITERATURE ON ACUTE PURULENT THYROIDITIS

To the Editor:—Please give references regarding the literature on acute purulent thyroiditis. The condition is evidently a primary one, and not the result of a general infection. C. B. O.

Answer.—The following are some of the references to the literature of recent years:

Meara, F. S., and MacGregor, R. S.: Case of Acute Suppurative Thyroiditis with Pressure Symptoms Relieved by Intubation, *Arch. Pediat.*, August, 1906.

Variot and Roland: Un cas de thyroïdite aiguë, *Bull. Soc. de pediat de Par.*, 1907, ix, 111; *Ann. de méd. et chir. inf.*, Paris, 1907, xi, 316.

Roger, H.: Thyroïdite typhique suppurée à bacille d'Eberth, *Montpel. méd.*, 1907, xxiv, 193-202.

Lamb, S. D.: Case of Acute Thyroiditis, *Wash. Med. Ann.*, 1907-8, vi, 243.

Cepparello, T.: Un caso di flemmone della regione tiroidea. Osservazione clinica, *Riforma med.*, 1908, xxiv, 934.

Melandri, G. F., and Legg, T. P.: Acute Suppuration in a Thyroid Adenoma Due to the Bacillus Typhosus, *Lancet*, London, Jan. 25, 1908.

CATHARSIS AND DIURESIS IN ACUTE INFECTIOUS DISEASES

To the Editor:—To stimulate elimination by the use of cathartics and diuretics is often advised as part of the treatment in acute infectious diseases, for instance, pneumonia.

1. Is there any proof that elimination through the bowels or kidneys plays any part in the cure of those diseases?
2. Is there any proof that elimination of toxins through the bowels is increased by the use of cathartics?
3. Is there any proof that elimination of toxins or bacteria through the kidneys is increased by the use of diuretics?
4. Have any experiments been made showing that animals injected with bacterial toxins or bacteria do better with the use of cathartics or diuretics? H. Haerem, Story City, Iowa.

Answer.—These questions may be answered in the negative, so far as positive demonstration is concerned. Clinical experience, however, affords many examples of rapid recovery from toxemia or infection after a free evacuation of the bowels. The exact way in which these results are brought about is not known and the question given may stimulate more exact investigation and a rational criticism of our accepted methods of treatment.

"SEMELINCIDENT" AND "IMMUNIFACIENT"

To the Editor:—In offering the new word "semelinicident," referring to the class of diseases which occur once only (The Journal, Sept. 18, 1909, liii, 963), I had also thought of a word similar to your very good word "immunifacient." I cannot think, however, that your word refers quite as directly to the idea as mine. Your word includes also the effects of vaccination, antitoxins and all serum treatment, does it not? Mine, on the other hand, not only directs attention to the one fact that these ailments happen once in a life-time, but emphasizes the fact that it is but once. They are both good words and needed words, but not quite synonyms.

T. L. Hazzard, Pittsburg, Pa.

The Public Service

Medical Department of the Army

Changes for the week ended Nov. 6, 1909:

La Garde, L. A., lieut. col., assigned as president of the faculty, Army Medical School.

Grubbs, R. B., capt., granted an extension of 1 month to his leave of absence.

Harris, H. S. T., lieut. col., ordered to Hawaiian Islands on November 5 transport, to inspect hygienic and sanitary conditions at Hawaiian posts.

Bushnell, G. E., lieut. col., granted leave of absence for 6 months, on account of sickness.

Bartlett, C. J., capt., granted leave of absence for 3 months.

Wilson, Elsworth, M. R. C., Archer, W. M., Jr., and Philips, H. F., M. R. C., relieved from duty at their present stations, and ordered to San Francisco, to sail Jan. 5, 1910, for Philippine service.

Medical Corps of the Navy

Changes for the week ended Nov. 6, 1909:

McCormick, A. M. D., surgeon, detached from temporary duty at the Works of the General Electric Company, Schenectady, N. Y., and ordered home to wait orders.

Kelley, H. L., asst.-surgeon, detached from the First Torpedo Flotilla on board the *Decatur* and ordered to the Naval Hospital, Canacao, P. I.

Higgins, S. L., asst.-surgeon, detached from the Naval Hospital, Canacao, P. I., and ordered to the *Wilmington*.

Koltes, F. X., asst.-surgeon, detached from the *Wilmington* and ordered to the Naval Station, Cavite, P. I.

Huff, E. P., asst.-surgeon, detached from the Naval Station, Olongapo, P. I., and ordered to the *Villalobos*.

Smith, H. L., asst.-surgeon, detached from the *Villalobos* and ordered to the Naval Station, Olongapo, P. I.

Lee, A. E., asst.-surgeon, detached from the *Rainbow* and ordered to the *Albatross*.

McCormick, A. M. D., surgeon, ordered to duty in connection with the fitting out of the *Michigan*, and to duty on board that vessel when commissioned.

Shiffert, H. O., surgeon, commissioned surgeon from April 1, 1909.

Wieber, F. W. F., surgeon, detached from the Naval Station, Cavite, P. I., and ordered home, with permission to delay 2 months, en route.

Ledbetter, R. E., surgeon, ordered to the Naval Station, Cavite, P. I.

Butts, H., asst.-surgeon, detached from the Naval Station, Cavite, P. I., and ordered home via the Suez Canal.

Henry, R. B., asst.-surgeon, ordered to the *Rainbow*.

Noble, D. H., asst.-surgeon, ordered to the Naval Station, Olongapo, P. I.

Harlan, T., acting asst.-surgeon, ordered to duty with the First Torpedo Flotilla Pacific Fleet.

Public Health and Marine-Hospital Service

Changes for the seven days ended Nov. 3, 1909:

Carmichael, D. A., surgeon, granted 18 days' leave of absence from Nov. 15, 1909.

White, J. H., surgeon, directed to report at Bureau on special temporary duty.

Woodward, R. M., surgeon, granted 14 days' leave of absence from Oct. 30, 1909, on account of sickness.

Stoner, J. B., surgeon, granted 10 days' leave of absence from Nov. 2, 1909.

Stimpson, W. G., surgeon, relieved from duty on Revenue Cutter *Manning*, and directed to proceed to Philadelphia, and assume charge of the Service, relieving Passed Assistant Surgeon R. H. Creel.

Rosenau, Milton J., surgeon, resignation accepted to take effect Jan. 31, 1910, revoked, by direction of the President, Oct. 29, 1909.

Rosenau, Milton J., surgeon, granted 5 months' leave of absence, without pay, from Feb. 1, 1910.

Foster, M. H., P. A. surgeon, directed to proceed to Antwerp, Belgium, on special temporary duty, and on completion of said duty, report to the medical officer in charge at Naples, Italy, for duty.

Fox, Carroll, P. A. surgeon, relieved from duty on Revenue Cutter *Bear*, and directed to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for duty.

Gwyn, M. K., P. A. surgeon, granted 3 days' leave of absence from Oct. 30, 1909, under paragraph 191, Service Regulations.

Roberts, Norman, P. A. surgeon, granted 2 days' leave of absence from Nov. 1, 1909, under paragraph 191, Service Regulations.

Hunt, Reid, chief, Division of Pharmacology, Hygienic Laboratory, detailed to attend the National Conference on Pellagra, to be held in Columbia, S. C., Nov. 3-4, 1909.

Alexander, E., acting asst.-surgeon, granted 15 days' leave of absence from Nov. 4, 1909.

Deerhake, William P., acting asst.-surgeon, granted 1 day's leave of absence in October, 1909, under paragraph 210, Service Regulations.

Gill, S. G., acting asst.-surgeon, granted 21 days' leave of absence from November 9, 1909.

James, William F., acting asst.-surgeon, granted 30 days' leave of absence from Nov. 4, 1909.

APPOINTMENT

Dr. Charles Bell, appointed an acting assistant surgeon for duty at Detroit.

RESIGNATION

Joseph H. Kastle, chief, Division of Chemistry, Hygienic Laboratory, resigned, to take effect Sept. 30, 1909.

Health Reports

The following have been reported to the Marine-Hospital Service, during the week ended Nov. 5, 1909:

SMALLPOX—UNITED STATES

District of Columbia: Washington, Oct. 17-23, 1 case.
Georgia: Macon, Oct. 9-15, 2 cases.
Illinois: Chicago, Oct. 17-23, 1 case.
Indiana: Indianapolis, Oct. 18-24, 2 cases.
Massachusetts: Boston, Oct. 17-23, 1 death.
North Carolina: Charlotte, Oct. 16-22, 2 *cases*.
North Dakota: Henry County, Aug. 1-31, 5 cases.
Ohio: Dayton, Oct. 17-23, 2 cases.
Texas: San Antonio, Sept. 5-Oct. 2, 4 cases.
West Virginia: Wheeling, Oct. 17-23, 1 case.

SMALLPOX—FOREIGN

Algeria: Algiers, Sept. 1-30, 4 deaths; Bona, Sept. 1-30, 5 cases, 3 deaths.
Brazil, Sept. 11-26, 7 cases.
China: Amoy, Sept. 5-11, 1 death.
Egypt, general, Sept. 17-23, 9 cases, 4 deaths; Alexandria, Sept. 10-23, 2 deaths; Cairo, Sept. 24-30, 2 deaths.
France: Marseille, Sept. 1-30, 2 cases.
Greece: Athens, Sept. 19-25, 2 deaths.
India: Madras, Sept. 18-24, 2 deaths.
Indo-China: Saigon, Sept. 6-13, 1 case, 1 death.
Italy, general: Naples, Oct. 4-10, 6 cases.
Mexico: Veracruz, Oct. 11-17, 4 cases, 1 death.
Portugal: Lisbon, Oct. 3-9, 12 *cases*.
Russia: Odessa, Sept. 27-Oct. 2, 7 *cases*, 2 *deaths*; Moscow, Sept. 27-Oct. 2, 1 case, 3 deaths; Warsaw, Aug. 29-Sept. 4, 1 death.
Spain: Almeria, July 1-Aug. 31, 8 deaths; Barcelona, Oct. 4-11, 3 deaths; Madrid, Sept. 1-30, 109 deaths; Valencia, Oct. 2-9, 2 cases; Vigo, present.
Turkey: Bagdad, Aug. 15-Sept. 18, present; Constantinople, Oct. 4-10, 1 death; Smyrna, Sept. 29-Oct. 5, epidemic.

CHOLERA

Belgium: Antwerp, Oct. 21-27, 8 cases, 6 deaths, in vicinity.
China: Amoy, Sept. 5-18, 39 deaths; Hankow, Sept. 25, present; Shanghai, Sept. 12-18, present.
Germany: Heysenkunig, district, Oct. 20, 1 case; Niederung, Oct. 16-20, 2 deaths; Tilsit, Oct. 11, 1 death.
India: Calcutta, Sept. 11-18, 8 deaths.
Java: Batavia, district, Sept. 12-18, 35 *cases*, 30 deaths.
Korea: Seoul, Sept. 21, estimated 100 cases daily.
Manchuria: Dalny, Sept. 19-25, 5 cases, 7 deaths.
Netherlands: Hattem, Oct. 1-8, 4 cases, 1 death.
Russia: Riga, Oct. 2-8, 16 cases, 4 deaths.
Straits Settlements: Singapore, Sept. 12-18, 1 death.

YELLOW FEVER

Brazil: Para, Sept. 27-Oct. 9, 9 cases, 6 deaths.
Mexico: Merida, Oct. 8-14, 1 case.

PLAGUE

Australia: Brumby, June 4, 1 case, on steamship *Zoroaster*.
Brazil: Rio de Janeiro, Sept. 20-26, 1 case, 1 death.
Chile: Iquique, Sept. 9-22, 2 cases, 2 deaths, Sept. 22, 2 cases in the lazaretto.
China: Amoy, Sept. 5-18, 86 deaths.
Ecuador: Guayaquil, Sept. 19-25, 9 deaths.
Hawaii: Hilo, Pepeekeo, Oct. 4, 1 case, 1 death.
India: Calcutta, Sept. 12-18, 9 deaths.
Indo-China: Saigon, Sept. 7-13, 7 cases, 7 deaths.
Mauritius, Aug. 13-19, 2 cases, 2 deaths.
Peru, general, Aug. 28-Sept. 23, 14 cases, 10 deaths.
Zanzibar, Oct. 20-26, 2 deaths.

Society Proceedings

COMING MEETINGS

American Physiological Society, Washington, D. C., December 28-30.
Hawaiian Territorial Medical Society, Honolulu, November 19.
Southern Surg. & Gynecological Assn., Hot Springs, Va., Dec. 20-21.

CONFERENCE ON PELLAGRA

Held under the auspices of the South Carolina State Board of Health at the State Hospital for the Insane, Columbia, S. C., Nov. 3-4, 1909

[SPECIALLY REPORTED FOR THE JOURNAL]

The conference met at 2:30 p. m. and was called to order by Dr. C. F. Williams, Secretary of the State Board of Health.

An address of welcome was delivered by Governor Ansel, which was responded to for the conference by Dr. William C. Woodward, Washington, D. C.

Pellagra from an English Viewpoint

Dr. F. M. Sandwith, London, England: Maize (*Zea mays*) was introduced into Egypt as a cereal from Syria about 1840, yet pellagra was not discovered until 1893, though it has, perhaps, been present for years in the country districts. In spite of denial from American authorities on medicine, I have always suspected that pellagra might exist, unrecognized, in the South, and at one time I requested my friends to put me into communication with the poorest folk of the maize-eating districts. I was referred to a settlement in Eastern Virginia for pauper negroes, but, on investigation, I found that the inmates lived in stone houses on pork rations and I came to the conclusion that the word poverty represented no condition in America which could compare with the misery of the impoverished peasants of Italy, Roumania and Egypt. During the South African war I found myself surrounded by poor colored folk living on maize, and I naturally expected to find pellagra among them, but every medical man practicing in the country assured me that no such disease had ever been seen. Yet, in 1900, I saw two cases of pellagra among the lunatics of Robben Island, Cape Town, and had previously recognized a third case at Bethlehem Hospital (London) which had been imported from South Africa.

Now that the diagnosis of pellagra has been firmly established in so many states, it would be well to find out for certain how many people are attacked by the disease in the South. In order to arrive at any correct figures, it might be well to institute compulsory notification of the disease, at least as a temporary measure. In Italy there has been a law to that effect since 1888. The lunatic asylums will continue to yield a certain number of advanced cases, but pellagra should be searched for among the out-patients of general hospitals and in the private practice of country doctors. I would also recommend that agricultural laborers should be examined in the states where pellagra is known to be prevalent, such as Georgia and North and South Carolina. This might be done in February or March, when the eruption is likely to be present.

In 1901-2 I obtained permission to examine 500 Egyptian peasants who were actually at work in the fields; they all stoutly denied that they were ill, and their employers, who worked them, stated that they could all do a fair day's work. Yet in every field I found early stages of pellagra, varying from 15 per cent. in well-to-do districts to 62 per cent. in the inhabitants of the poorest hamlets. If a complete census could be obtained of the pellagrous it might be found that the two sexes suffer equally, unless the women have a less varied diet than the men, and I shall be surprised to learn that the children (after the age of ten) are fairly exempt, as more than one American writer has stated during the last two years. One of the objections to the diseased maize theory of causation is that cases are sometimes reported of pellagra occurring among those who have never eaten maize. In examining more than 1,000 cases of pellagra, I have, of course, often encountered individuals who stated that they were not maize eaters, but on cross-examination every one of them pleaded guilty to having occasionally eaten bread which was partly made from maize flour. I therefore venture to suggest that in any undoubted case of pellagra the patient should be thoroughly questioned, before we inculpate a second cereal or attempt to overthrow the belief that diseased maize is a potent factor in the etiology.

Two cases of pellagra have recently been recorded in patients who had never been out of the British Isles, but the published accounts do not tally with the disease as I know it, though the symptoms were somewhat similar to pellagra. One of the patients had never eaten maize but had devoured raw oatmeal and rice. There are certain general axioms which prove true in Italy and Egypt, and it will doubtless be found that they hold good in the United States also:

1. In districts where no maize is cultivated or habitually eaten, pellagra does not exist.
2. There are many districts where maize has been cultivated for many years and yet pellagra has not appeared.
3. Well-to-do-people in pellagra districts, living on varied diet and consuming maize as an occasional, and not as the staple cereal, usually escape pellagra.
4. It is not good maize or good maize flour which produces pellagra; the disease requires for its production the habitual use of damaged maize in some form.

There is a vast amount of Italian literature dealing with the question of what the damage may be, and there is now a considerable consensus of opinion in favor of incriminating *Penicillium glaucum* or bread-mold in ordinary pellagra.

5. We are constantly being reminded by skeptics that the maize area of the world is infinitely greater than the pellagra area. This is not the point. The question is, does not pellagra distribution correspond very nearly with the areas on which human beings live who eat damaged maize or products made from damaged maize?

Pellagra as a National Health Problem

Dr. J. W. Kerr, U. S. Public Health and Marine-Hospital Service: The disease is serious, and its occurrence in the United States is a matter of grave concern. In Europe an enormous amount of study has been devoted to problems connected with the prevalence of this disease. The problems of pellagra are in some respects analogous to those of beriberi, since both diseases are held to be associated with the consumption of important articles of diet, both are capable of becoming veritable scourges among the people of countries where they become endemic, and in neither case has the etiology been definitely determined. It has not been deemed necessary by the national government to institute quarantine procedures against either disease. The Public Health and Marine-Hospital Service is ever alive to the importance of exotic diseases, and through its officers stationed abroad, and other sources, evidence has been accumulated that neither disease is directly communicable, and that where they prevail, there also must their causes be sought. During the past two or three years the Public Health and Marine-Hospital Service has investigated pellagra and has distributed 23,000 copies of articles on that subject.

A plan of investigations has been submitted to the Advisory Board of the Hygienic Laboratory and the preliminary steps were taken in the Hygienic Laboratory in Washington and the State Hospital for the Insane in Columbia, S. C.

The increasing prevalence of the disease is indicated by records of approximately 1,200 cases scattered over thirteen states up to June last, and conservative estimates that the total number of cases at the present time probably aggregate 5,000. This apparent increase of cases is due not wholly to an increasing prevalence of the disease, but also to the recognition of existing cases as knowledge of the disease spreads and skill in diagnosis develops among a profession hitherto largely unfamiliar with the subject. On account of the apparent increase and because of the lack of definite knowledge as to its etiology, the disease is held to be of national importance; the annual report of the Surgeon-General of the Public Health and Marine-Hospital Service shows that pellagra should receive unremitting study. The Surgeon-General has designated a commission of scientific workers who will concentrate their energies on different phases of the problem with the view to its further elucidation. This commission consists of Passed Assistant Surgeon John F. Anderson, Director of the Hygienic Laboratory; Dr. Reid Hunt, Chief Division of Pharmacology of the Hygienic Laboratory; Surgeon M. J. Rosenau, of Harvard University; Passed Assistant Surgeons C. H. Lavinder and John D. Long, of the Hygienic Laboratory, and Dr. Nicolas Achuccaro, of the Government Hospital for the Insane, Washington, D. C. The belief that there is some relationship between pellagra and the use of corn as food, is too universal and too profound to permit of rejection except in the case of demonstrative proof to the contrary. At the same time, the exact nature of this relationship awaits final solution, and as there is evidence that sound corn is a highly nutritive and valuable food, to counsel its total rejection would therefore be inadvisable except for purposes of investigation.

Economic Factors of the Pellagra Problem in South Carolina

Mr. E. J. Watson, Commissioner, Department of Agriculture, Commerce and Industries, Columbia, S. C.: The agitation of the whole question as to whether or not corn is the producing agency of pellagra—indeed the mere discovery of the disease—should admonish our people to do what we have been pleading with them for other economic reasons in season and out of season to do for their own protection, namely: raise their own home supplies. In this climate, corn matures and is liable to be pure, and our people owe it to themselves and their posterity to do their part. Today there is a mere handful of grist mills in operation within the state and their business is purely local. The first step, then, from an economic standpoint, is for the people of the affected states to raise and manufacture for human food purposes their own corn, and the second is, for them to put in full force a complete inspection system with means and men to execute the laws when once enacted.

Pellagra: Its Recognition in Illinois and the Measures Taken to Control It

Dr. George A. Zeller, Peoria, Ill.: To sum up the situation in the Peoria State Hospital on November 1, I will say that since August 10 there have been officially recognized 130 well-defined and diagnosed cases of pellagra with 100 additional patients in the wards with symptoms sufficiently pronounced to warrant their inclusion, but who for the present are suffering no inconvenience. They are being carefully charted and will form the basis of observation for next year. Of the 130 cases, 75 were women and 55 men. Of these, 30 women and 15 men, a total of 45, died since August 10. Postmortem examinations were held in 36 of these cases. Of the living the average age is 51 years; average number of years insane, 16; average period resident in this institution, 3½ years. Of the dead, the average age at death was 54 years; average length of time insane of those who died, 17 years; average period of residence in this institution of those who died was four years. Of the living and dead the average age was 51 years; average period insane of the living and dead, 15 years; average period of residence of the living and dead in this institution, 4 years. Of the total number 12 were received from other asylums within the current year. The death-rate of patients actually transferred to the hospital for treatment has been 34 per cent. The youngest pellagrin was 22 years old; the oldest was 85 years old. Of the total 12 were epileptics and 7 were in an advanced stage of tuberculosis. The list contains but one colored person, a man, who survives with marked dry and thickened palmar tissue. If these are added to the 100 living patients still in the wards, the mortality stands 20 per cent.

Clinical Aspects of Pellagra

Dr. J. F. Siler, Captain Medical Corps, U. S. A., drew the following conclusions: Paralysis of the eye muscles is found in the later stage of the disease in a small percentage of cases. Conjunctivitis is not an uncommon symptom. Early forming cataracts are frequently noted, and the metabolic nature of this disease is supported because this condition is generally considered as an altered state of the nutrition of the lens when occurring in normal individuals. Inflammation of the optic nerve and retina is observed in a relatively large percentage of cases. Common and most pronounced of all the eye changes is involvement of the chorioid. In none of the cases presenting eye symptoms could the character of the changes be regarded as pathognomonic of pellagra. The severity of the eye symptoms runs parallel with the severity of the general manifestations of the disease, and the finding of marked eye changes adds to the gravity of the prognosis in pellagra and indicates, in a large percentage of cases, an early fatal termination. The treatment of the condition is discouraging. Thyroid tablets were administered in a number of cases with no result. Fowler's solution, in increasing doses, was used without any noticeable effect. Atoxyl, in 5 grain doses, was used, one injection every seven days, and in only one or two cases could improvement be attributed directly to medication. Normal saline solution was used in the more severe cases with only temporary improvement. Bulgarian tablets were used in modifying the milk in the hope that improvement in intestinal symptoms might result. This diet had not been given extensive trial, and while no definite conclusions were reached, it is believed to be worthy of further trial.

Mortality.—Of the patients making up this series, 22 per cent. died, 10 per cent. were failing, 17 per cent. were improving, and 51 per cent. had recovered from the acute attack. It may conservatively be estimated that the death rate from pellagra at Peoria ranges between 25 and 30 per cent.

Summary.—1. A large percentage of the patients gave histories of previous attacks. 2. A large proportion of the patients had been insane for many years and gave histories of long stay in institutions. 3. About one-third of the patients showed other organic disease, exclusive of dysentery. 4. All patients showed cutaneous lesions involving back of hands and in a number of cases this was the only symptom noted. 5. Bleb formation occurred in a small percentage of the patients and a large percentage of those showing blebs died. 6. Symptoms involving the mouth and intestinal tract were characteristic in the more severe cases only. 7. The only reflexes of diagnostic value were the patellar and plantar reflexes. These reflexes, in a large percentage of cases, showed departure from the normal. 8. A small percentage of the patients were committed to the institution during the past two years and some of these cases may be pellagrous insanity.

The Etiology of Pellagra

Dr. H. J. Nichols, Captain Medical Corps, U. S. A.: 1. Good corn is injurious in large quantities. This theory can hardly be used to explain the trouble at Peoria because the purchases for 1908 show only thirty-eight pounds a year per patient received, or a little over one ounce a day; as a matter of fact, some classes of patients receive rather more, but not exceeding two ounces a day in a liberal diet. It has been estimated that about sixteen ounces of white rice a day are necessary to produce beriberi. If corn holds the same relation to the disease a much larger amount would have been necessary at Peoria. 2. Spoiled corn is responsible: This is not the case so far as can be told by the senses. The corn used was inspected on the change and at the mill, and it is No. 2, the best that is on the market. Nothing in the way of a "food scandal" could be unearthed. The corn products do not have to be transported far, and if any poisons develop they cannot be told by ordinary means. 3. Toxins may be developed in the intestines by fungi or bacteria on a corn diet. In regard to moulds, several trials were made but no moulds were found that survive the heat of cooking. Of course, this does not exclude them, but it makes them seem less likely as a cause. On the other hand, a spore-bearing bacterium was repeatedly found in corn meal which survived steaming for two hours, and this seems to offer possibilities.

In order to learn something of parasites in corn a trip was made to the University of Illinois and it was found that only in recent years has any definite work been done on this subject, and much remains to be done, especially in regard to bacteria. The most common cause for disease of ears on the stalk has been found to be a kind of diplodia which has been stated by one author to be on the increase in recent years and along with aspergillus, pencillum, etc., has been advanced as a cause of pellagra. The department of botany has agreed to furnish us cultures of the known molds and bacteria, and work will be done with these. The most promising field seems to be along the line of an intoxication produced by toxin of corn products in a damaged intestine and this will be followed up. Several instances have been found of a toxic action for animals, first of an excessive corn diet, also of a diet of corn gluten infected with moulds; and there are, no doubt, several kinds of diseases connected in some way with corn, but pellagra must be due to one, not to several kinds of corn poisoning. The outstanding fact about corn raising in the last fifteen years is that the shelled corn is marketed from four to eight weeks earlier than it used to be; that the time of weathering and drying on the stock is cut short, and that more trouble is experienced in handling the corn and preventing it from going bad. This fact, with the considerable increase of the use of corn products in the past few years may prove to be of significance.

The recommendations respectfully submitted for the Peoria State Hospital are: 1. Cleaning out the pipes of the cold water supply; better protection of the surface tank; regular examinations of the water for bacteria and protozoa. 2. Examination of stools of possible cases of dysentery, especially among the untidy and appropriate treatment of dysentery cases. 3. Elimination of corn from the diet of the more debilitated patients.

Summary.—1. The pellagra patients at the Peoria State Hospital show a very high percentage of protozoal infections of the colon. 2. The study of the patients and diet points to some endogenous intoxication. 3. The protozoa may play an important part in the seasonal production and absorption of an endogenous toxin.

Discussion on Papers of Drs. Zeller, Siler and Nichols

Dr. C. L. Minor, Asheville, N. C.: Of the cases of pellagra observed in Asheville, the first was diagnosed by Dr. W. L. Dunn. Dr. Dunn had two or three cases of the disease during his hospital service, and I had two or three following him in my service. These cases were seen at the end of the season, and left the hospital in very good condition. They were ignorant patients and thought they were well. Of the number seen, one proved fatal; in this case the disease was advanced. In the majority of the cases seen the people have been of the poorer class. One was a watchmaker by occupation, whose case was acute, and he died without the development of mental symptoms. The patients came to the hospital chiefly on account of diarrhea and an eruption on the hands. This eruption had been treated for various skin conditions by different physicians before a diagnosis of pellagra was made. The milder cases of pellagra may be easily overlooked among the farmer class of patients, for the reason that the hands of these patients look like those of a hard-working farmer, cracked and slightly inflamed. The stomatitis in the cases observed, with the exception of one which was severe, was mild. The chief diagnostic feature in every case was the skin condition. Only one patient showed mental symptoms. All had eaten largely of corn meal and lived under miserable conditions.

Dr. C. F. Williams, Columbia, S. C.: I wish to mention a typical case of pellagra which I saw in 1899. The patient became insane a short time before death. The patient had what I and others termed then eczema. There was intense stomatitis, rapid emaciation, and diarrhea.

Dr. L. J. Pollock, Dunning, Ill.: The first case occurring in the Cook County institutions was noted in August, 1909, when the diagnosis was as yet not made. With the subsequent occurrence of three other cases presenting the same symptomatology, course and fatal outcome, and not being familiar with the occurrence of pellagra in the United States, we came to the conclusion that we were dealing with a clearly defined disease with which we were unfamiliar. A clue as to its nature was offered to us in the description of pellagrous insanity in Bianchi's "Psychiatry." From the onset the next case was thought to follow closely the description of Italian pellagra, but it was not until the inquiry of the South Carolina State Board of Health was addressed to us that the diagnosis of pellagra was definitely made. The first public notice of the occurrence of pellagra in the Cook County institutions followed the confirmation of our diagnosis by Dr. C. H. Lavinder on July 18, 1909. The devious route by which we came to the conclusion that we were dealing with pellagra proclaims the necessity for widely distributing literature concerning the nature and prevalence of this condition throughout the United States. This importance is further emphasized by the fact that pellagra has existed in the Illinois institutions for a number of years before its recognition. Dr. Podstata, superintendent of the Northern Hospital for Insane, recalled cases occurring in his service several years ago. The entire number was 26; females, 13, all insane; males 13, 8 insane, 2 in the Poor House, and 2 in the Hospital for Tuberculosis. The duration of the fatal cases averaged thirty-four days. The duration in the remaining cases averaged forty days. The nativity was as follows: United States, 7; England, 1; Ireland, 9; Bulgaria, 1; Germany, 5; Denmark, 1; Austria, 1, and unknown, 1. Of those foreign, the Bulgarian was in this country six months; the others ranged from eight to forty years. They had been confined in the institution from four months to twelve years. The psychoses at the time of admission were as follows: Dementia paralytica, 4; alcoholic, 5; dementia præcox, 5; paranoia, 3; acute confusional, 1; melancholia, 1, and senile dementia, 3. The symptomatology has been, in general, fairly uniform. The course in those patients not dying during the acute exacerbation has been one of uniformly progressing cachexia and weakness, and despite the disappearance of the gastrointestinal lesions and skin disturbance, the patients progressively became weaker and died. Of those who died, numbering 14, one died of apoplectiform convulsions of dementia paralytica; one in a low muttering delirium, with choreiform movements; one of respiratory failure, two of tuberculosis, one of carcinoma of the stomach, the others of exhaustion. The medicinal treatment has consisted of the hypodermic administration of arsenic salts, with no appreciable effects. The pathology, as seen in the post-mortem examinations on four cases, showed nothing distinctive. Besides the findings of cachexia, some fatty degeneration of the liver, heart and kidneys, injection of the large intestines, prominent Peyer's patches showing a shaven-beard appearance near the ileocecal valve, and enlargement of the mesenteric glands were present. In the nervous system there was some edema of the meninges, and microscopically chromatolysis of the anterior horn cells of the cord.

Dr. C. H. Lavinder: So far as the symptomatology of pellagra is concerned, especially with reference to the cases seen at the Peoria institution, I will say that the symptoms of pellagra vary in various sections of the country, and in various seasons of the same sections of the country. Some one particular phenomenon will be prominent in one case, which is not known or observed in others. In reference to Dr. Nichols' paper, working in Columbia with Dr. Babcock, I have not found amebic organisms associated with pellagra as often as he has found them.

Dr. J. W. Mobley, Milledgeville, Ga.; I wish to refer to the complication of enteric ulcer associated with pellagra. As far back as 1897 at the Georgia State Sanitarium, according to the post-mortem examinations that were made, pigmentation of the hands and feet, with skin abrasions and stomatitis were observed, although at that time the cases were not considered pellagrous in character. I made many of these post-mortems myself and frequently found ulcers about the ileum which I have every reason to believe now were pellagrous. Dr. Willits, pathologist, in 500 unselected cases for examination, found parasitic infections in 57 per cent. of the cases, and of these 500 cases, 35 were pellagrous. Of the pellagrous cases, there were four in which there was infection with parasites, but the most important were infections from the strongyloides and hookworm.

Dr. J. W. Babcock, Columbia, S. C.: I know many physicians connected with asylum work, but I do not know of a single one in America or in Europe who would come before an audience like this and proclaim in the way Dr. Zeller has done what he believes to be the truth in regard to pellagra and the condition that prevails at Peoria.

Dr. Julius C. Sosnowski, Charleston, S. C.: I can recall twelve cases of pellagra in Charleston, and of this number six patients were below the age of 14, 1 was 18, 4 were between 20 and 40, and 1 was over 40. Six were white and 6 were colored.

Dr. M. B. Young, Rock Hill, S. C.: Of the cases I have seen, I recall a child of two years and five months that had the disease.

Dr. H. E. Menage, New Orleans: We have had in New Orleans a typical case of pellagra in a girl 4 years old. The child lived four weeks after we first saw the case. The disease had been of two or more years' duration. The pathologic findings in the brain were interesting. The child was idiotic and cried constantly. On opening the skull the brain cavity presented a peculiar appearance. The anterior convolution was large and edematous. The posterior convolution behind the fissure of Rolando was small and vermiform; it looked like a bundle of worms. On either side of the main commissure and back of the fissure of Rolando, bilaterally and symmetrically, there were two large cysts filled with fluid and encapsulated, with rather thick walls.

Dr. John W. Thomas, Pineville, La.: I want to ask Dr. Zeller what rôle corn bread played in the dietary in his institution at Peoria.

Dr. Zeller: A very insignificant part; a little more than an ounce a day on an average for all patients. Corn is not a great factor in our dietary.

Dr. Thomas: My experience is similar to that of Dr. Zeller, except that our dinner meal consists almost exclusively of corn bread. Since I have been convinced from reading the literature that corn bread plays an important part in the causation of pellagra, I have eliminated it entirely from the dietary at the Louisiana Hospital for the Insane. I am convinced that the disease is either due to impure corn meal or to an infection of some kind.

Dr. I. W. Faison, Charlotte, N. C.: The patients with pellagra I have seen have had no skin lesions whatever, and I am fully persuaded that we can have and do have cases of pellegra without any skin manifestations, although the patients may have all the other symptoms. The skin lesions, when they appear, are but one manifestation of the disease.

Differential Points in the Skin Lesions of Pellagra. Report of One Case with Removal of Symptoms

Dr. Isadore Dyer, New Orleans, argued for a more satisfactory definition of the symptomatology in the skin evidences of pellagra. Five cases were related in detail, no two of which presented exactly the same symptoms and none of them having the erythema considered diagnostic of the disease. Differential points were raised showing resemblances to blastomycetic dermatitis, vesicular eczema and pityriasis rubra pilaris. Among the cases reported one was instanced in which the general symptoms of the disease were in evidence and which were controlled with the hydrobromate of quinin. The writer argued the value of large doses of quinin in cases with pronounced symptoms of the disease, to be followed by a systematic course of this drug in the treatment associated with tonic doses of arsenite of soda and nux vomica.

Psilosis Pigmentosa in Barbados

Dr. C. G. Manning, Bridgtown, Barbados: We have had a disease in Barbados for the last fifteen years which the general run of medical men call pellagra. I am sure that it is not pellagra, and my reasons for saying so are: 1. Pellagra is said to be caused by ergotized corn or some other disease in the food we eat. If that proposition is to stand, we would naturally conclude that in an asylum like the one I am in charge of (400 beds), where the maize and other foods are cooked in the same kitchen and served alike to patients and attendants, this disease would spread alike to attendants and patients. We have never had an attendant have this disease, and we have never seen it in patients of the better class, who take pride in bathing frequently and in keeping themselves clean. 2. The dark discoloration and squamous appearance of the skin do not appear over the face, chest and back, nor is it a true pigmentation in any sense of the term. It is a scurvy crust which appears in ninety-nine cases out of a hundred on the elbows, knees, ankles, hands and feet, but specially on the point of elbows and knuckles; very rarely on the chest, back, etc. 3. It often appears and disappears without leaving a mark, and reappears again at varying distances of time, but it is not a true pigmentation, white like a tattoo mark, and never disappears. The disease has the following characteristics: It is essentially a disease of poverty, hunger and dirt. The patient first complains of disinclination to take his food. Soon he positively refuses solid food or highly seasoned food of any kind. On examining the mouth, tongue and pharynx, the cause is apparent. The tongue will be found stripped of its epithelial covering. At first this is most apparent at the tip and along the edges. It will be found that the mucous membrane of the cheeks look red and irritated. Patients prefer milk, and this is the best nourishment for them because it is the least irritating and most nutritious. Very soon attacks of diarrhea set in and often prove intractable. Scurvy patches of dark color will be found over the points of the elbow, knees and knuckles. These generally are the localities first attacked; later the feet and hands become affected, and if the patient wears slippers or shoes the part of the foot which is covered is never attacked. The patient rapidly loses flesh, and this is followed by intense anemia; the brain, like the other organs of the body, is badly nourished, and cerebral anemia causes the patient to become silly and half-witted, sometimes mouthing and garrulous, and it is on account of these cerebral symptoms that the patients are certified as insane and "dumped" in our asylums to save further trouble on the part of the parochial authorities. Under regular feeding and steady treatment these patients do wonders; the scurvy patches disappear, and as the patients become less anemic the cerebral symptoms clear up and they become perfectly sane and rational. They often go on quite well for years, but there is a tendency for the attacks to recur, but with suitable treatment the symptoms again clear up and the patients appear perfectly well and will put on flesh. If the patient is admitted after the above preliminary symptoms have become chronic and have not been treated the disease pursues its headlong course and defies all the skill and attention that we are capable of affording. The diarrhea becomes intractable and frequent vomiting is a most troublesome symptom; sometimes the ejecta from the stomach contains streaks of blood, sometimes clots are thrown up. The diarrhea is also blood-stained, and in one case I have seen true melana, with dark tarry stools passed before the patient's death. The smell of the evacuation is overpowering, and there is a sickening odor never to be forgotten. The patient wastes to a skeleton, suffers intense pain right through the alimentary canal from the mouth to the anus, and dies simply a skeleton with the skin stretched over it. The patches on ankles, dorsum of feet, etc., if the patient is white, soon have a purple blotched appearance. They are a kind of purpura, they form blebs, break down and the epithelium strips off, and this is why I call the disease psilosis, from bare, "stripped." Gangrene invades the discolored area, and the cutis vera is the next to separate and come away "in strips." The muscles follow suit and even the tendons hang in shreds about the parts that break down so rapidly. The buttocks soon have discolored areas, over the trochanters, sacrum, etc., and after a deep burrowing gangrene sets in over the gluteal muscles horribly offensive sloughs separate bit by bit and the patient sinks exhausted a miserable and pitiable object, and death is a welcome visitor.

When I first took charge of the asylum in this Colony there appeared very little hope of doing anything for these poor sufferers, but as I went on patiently studying the progress of the disease to its ultimate and fatal end, I came to the conclusion that the quality of the food had nothing whatever to do with causing it. I soon began strongly to suspect that it might be caused by an insufficient quantity—all the patients I have seen have been absolute paupers, poverty-stricken and dirty in the last degree—and also by being badly cooked, as this colony is bare of forests and firewood is exceedingly scarce all over the island. I am of the opinion that the disease is due to a fungus and as soon as I discovered that patients began to be attacked with this disease who had been in the asylum, in some cases for thirty years, and who suddenly contracted this disease and died from it, I thought that this fungus was not transmitted in the food, but in the clothing. It occurred to me that I would boil foul linen and clothing used and worn by these patients, and there has been a complete arrest of the spread of the disease to the old residents in the asylum; and, furthermore, there has been a marked amelioration in the symptoms of those admitted with the disease since they have been frequently bathed and supplied with clean and sterilized clothing.

I have found nothing to compare with 1/40 grain bichlorid of mercury, three times a day, and long continued; and milk diet, and nothing else but milk. When they begin to recover, cod-liver-oil emulsion has given good results, but it must be started with small doses and gradually increased, and it is discontinued if it upsets the stomach. From the success attending our efforts I am strongly of the opinion that this disease, if properly handled in the earlier stages, will in course of time become a matter of history.

Pathology of Pellagra

Dr. H. F. Harris, Atlanta, Ga.: There are few, if any, diseases characterized by perceptible organic lesions the pathologic anatomy of which is so difficult to arrive at as that of pellagra. This is to be accounted for first and foremost by the extreme chronicity of the disease. Up to the present, all recorded postmortem examinations with thorough studies of the tissues have been made without exception on old pellagrous subjects, and we are, therefore, constrained to regard as being typical of this affection those alterations discovered in the terminal stages of the malady. I would have no hesitation, however, in predicting that the future will show that the initial changes are in the central nervous system. A knowledge of the skin lesions in pellagra dates from Casal's observations, which began about the year 1735, although his monograph on the subject was not published until 1762. The tongue undergoes marked changes in pellagra. Similar alterations are found on the gums and on the buccal mucous membrane, and, at certain stages, in many cases in the pharynx. The mucosa of the stomach is often pale, and its walls dilated as a consequence of atrophy of its muscular coat; in some cases its surface is decidedly red in the pyloric region. Anemia or hyperemia is frequent in the jejunum, and ulcers are apt to occur in this situation, and even more often in the ileum. Similar lesions are occasionally found in the large intestines; not uncommonly the walls of the gut are thinned.

The mesenteric glands have been occasionally found hypertrophied. The spleen is usually diminished in size, occasionally hypertrophied. Metastatic foci are sometimes found in this organ. Occasionally the pancreas has been found atrophied. The liver is usually atrophied, though it is sometimes increased in size. In five of my post-mortems the organs weighed only once as much as 1010 grams. The kidneys are usually decreased in size, but are frequently found to be normal. The adrenals are normal. It is curious that tuberculosis is rarely found in the lungs of the pellagrous, but hyperemia, edema and emphysema are occasionally encountered, and pleurisy with effusion is not unknown; all of these changes are evidently in the nature of complications. The bones are often friable. The muscles are usually atrophied, but are sometimes normal. In one instance I encountered a typical "meningomyelitis acuta," such as described by Belmondo. Although the post-mortem was made only a few hours after death, the cord was very soft and on *microscopic examination was found to present alterations of* a most pronounced kind. The myelin sheaths of the nerve fibers showed marked degenerative changes, and the nerve cells of the gray substance exhibited to a high degree the alteration already described. Corpora amylacea were specially abundant throughout both the gray and white substances. The ganglion cells exhibit changes similar to those found in the central nervous system, though they are not as a rule so marked. From the results of the work of Beitti, it is not improbable that circulatory changes are frequent in the central nervous system in pellagra, as he has shown that in a certain proportion of the cases the retina is anemic, and in about the same percentage the opposite state of hyperemia occurs. It has been asserted by some that the alterations have been found in the peripheral nerves, but this remains without confirmation.

Hematology of Pellagra

Dr. C. H. Lavinder, U. S. Public Health and Marine-Hospital Service, Washington, D. C., reviewed briefly the literature and discussed the white and red cell counts, hemoglobin estimation, differential leucocyte counts, and the bacteriology of the blood. He concluded from the results obtained by others and by himself that there is ordinarily in pellagra a mild anemia of the secondary type, with qualitative changes in the red cells usual in such anemias; that leucocytosis is rare, and in all likelihood this is not a phenomenon of uncomplicated pellagra; that the results obtained in making differential leucocyte counts are too discordant to furnish any conclusions; though a number of workers have reported a relatively large mononuclear increase; that at various times several specific bacteria have been reported as found in the blood; that all of these have been discredited except Tizzoni's *Streptobacillus pellagræ;* that following Tizzoni's technic in several cases he has been unable to isolate his micro-organism; that by ordinary cultural methods and by experimentation on rats, guinea-pigs, rabbits and chickens, he has found the blood invariably sterile and non-pathogenic.

Pellagrous Insanity of the Arabs in Egypt

Dr. A. Marie, Paris, France: Pellagrous insanity is becoming almost unknown in France. It manifests itself there, however, in the form of hereditary insanity, as the recent investigations of Regis have shown. The asylums of Pan and Montpellier are almost the only ones where this affection persists in the statistical tables. Pellagra is only possible where maize is eaten. To be poisoned by the ferments of spoiled corn, it is necessary for this cereal to form part of the prevalent dietary. Such is not the cause in Spain, where this disease persists in certain regions and affects 20 per cent. of the population. In Italy, in spite of the valiant struggle led by Lombroso all his life, the regions of Bergamo, Briscia, Venice and Padua still number from 30 to 50 pellagrins to 1,000 inhabitants. Treviso, Vicenza, Cremonia and Pisa, 10 to 20 per 1,000. At Milan I was able several months ago to examine a number of insane patients of this kind. The total number of pellagrins in all Italy is estimated at 72,000. In the orient pellagra rages in Roumania, Servia, Bosnia, Macedonia. Albania and in the Turkish territory, as well as in Greece. In Egypt, pellagra reigns as in other Turkish countries where corn is largely used. There one may say that almost all the fellaheen are in some degree touched by the pellagrous poison. At the hospital of Kasr-et-Nil, at Cairo, in ten years more than 1,000 pellagrins have been treated. Each year, of this number of cases, forty are complicated with insanity, and the patients are consequently committed to the asylum of Abassia, where I was able to study them.

Outside of the hospitals, the study of pellagra in the country population has been undertaken by Dr. Sandwith. He thinks that on a general average more than 36 per cent. of the Egyptian peasantry are affected. In districts the least poverty-stricken, the proportion may fall to 15 per cent., but elsewhere it rises above 62 per cent. In lower Egypt the average would be highest even with young women. The considerable stillbirth rate would not exist but for this plague. In upper Egypt the greater dryness and the use of millet as food lessen the danger, and probably also the countries *remote from the seacoast use less imported maize, which is* more dangerous because of the defects of transportation. The number of pellagrous insane, as it appears, is continually increasing, and only those, however, who clearly bear the physical stigma are enumerated, but the hereditary pellagrins do not always present these stigmata thus clearly. The erythema varies in appearance according to the season; although its topography remains the same. From racial characteristics it acquires certain relative pigmentary peculiarities. It is thus that old cicatrices, instead of contrasting by a darker color as with the white race, manifest themselves on the contrary by a gray tint clearer in the men of color in consequence of a squamous thickening of a thick and dry epidermis.

The mental state of the patients is generally characterized by an initial phase of irritable weakness, by an apathy with physical and mental depression and diverse phobias. Sitophobia is frequent and coincides with the gastrointestinal troubles, gastralgia, cramps, nausea, alternating constipation and diarrhea, etc. A certain number of insane paralytics coincide with pellagra and confirm the opinion of Baillarger that the final paralytic phase of pellagra can represent an identical state clinically and pathologically with general paralysis of the insane. These cases do not invalidate at all the other form of general paralysis from which they are distinct, and which I have described as being in relation to syphilis. The two forms can, however, be combined: that is to say, one may observe among the Arabs general paralytics who are at once both syphilitic and pellagrous.

Pellagra in Egypt

Dr. John Warnock, Medical Director, Government Hospital for the Insane, Abbassia, Cairo, Egypt: Pellagra is very common among children in Egypt; apparently this is not the experience in America. I have seen scores of children from 10 to 15, dwarfed, cachectic, anemic, and displaying splendid black pellagrous rashes, and usually insane. The mental symptoms are modified by the age, and the children are mischievous and restless besides being depressed and deluded. Some of them look like little mummies. I think men suffer more frequently from pellagra than women in Egypt, but this is only an opinion; I have no figures to back it. In this asylum no corn is used in any form; all flour is carefully analyzed and the diet is kept absolutely free from maize. Yet pellagrous patients resident here for years and thus abstaining from maize for long periods again develop pellagrous rashes here with acute physical symptoms, sometimes resulting in death. It is noteworthy that the rash and the diarrhea occur simultaneously; the rash is, therefore, not a causal symptom produced by the exposure of a pellagrous person to the sun's rays, but a sign of a general degenerative process affecting the whole organism. Nearly all cases of acute typhopellagra have a very black indurated rash, and there seems to be a correspondence between the darkness of the rash and the acuteness of the general symptoms. Nearly every patient with pellagra suffers from bilharzia disease; very many from anchylostoma also, and very many from extreme favus of the scalp. I have always considered that these parasites have fixed themselves on a decaying organism; but there is something to be said for the possibility that these parasitic diseases account for some of the symptoms of pellagra (anemia, emaciation, etc.). I should like to know whether in America these parasitic diseases are found so frequently (or almost invariably) associated with pellagra?

Gynecologic, Obstetric and Surgical Aspects of Pellagra: A Preliminary Study

Dr. E. B. Saunders, Columbia, S. C., detailed twenty-four cases that had come under her observation, and in summarizing said:

To sum up my observations and reading upon the aspects of pellagra embraced in this paper, of the 24 cases reported, 4 patients are still under treatment, 10 recovered, and 10 died. In America and Roumania the female sex is more liable to pellagra, the periods of greatest incidence being the twentieth to fortieth year. Obstetric pregnant women suffering from pellagra are liable to abortion (17 per cent.), to give birth to still-born infants, and at delivery to postpartum hemorrhage. Gestation and lactation, especially when frequent, predispose to pellagra. Parturition is often an exciting cause for the outbreak of the dermatitis. Amenorrhea and leucorrhea occur in 50 per cent. of the cases and dysuria in 57 per cent. Unmarried female pellagrins are more subject to amenorrhea. Multiparous pellagrins are liable to menorrhagia, and present symptoms suggesting cancer. Their subjective symptoms may point to diseases of the pelvic organs and require careful examination for their exclusion. Not uncommon are vulvitis, vulvovaginitis, cervical erosions, endocervicitis and endometritis, ovarian neuralgia and inflammation, maceration and denudation of adjacent skin on the thighs and in perineal and anal regions, especially in "wet" cases. A surgical operation may bring out latent pellagra. Diseases of the kidney are simulated and may be primary or secondary. Stomach symptoms are often so severe as to require attention and rigid diagnostic methods. Care should be exercised to prevent needless surgical or other treatment. Other subjective symptoms may annoy the patient to such an extent as to demand treatment. Pellagrins often complain of symptoms suggestive of hemorrhoids when it is really proctitis, a part of the general inflammation of the intestinal mucosa and adjoining epidermis. In essence, pellagra may be a trophoneurosis, but that in women the pelvic organs are especially subject to the invasion of the unknown poison, is a fact demanding wider recognition as well as further study.

In asylum life we see a few failures among many brilliant surgical successes, but the above surely points to the fact that in the initial stages, especially when the symptoms are not very well marked and when there is much pointing to pellagra as well as to other diseases, a very careful differential diagnosis should be made and care given to other than the pelvic symptoms of these cases. If possible, relieve the primary disorder, pellagra, before resorting to radical operations, which, at best, cannot cure pellagra, and will probably only increase the already lethal tendency. Not much will be lost in waiting for a time, at the expiration of which the symptoms may have been relieved, or the pellagra erythema now so necessary for diagnosis have appeared in full efflorescence. Patients with pellagra, on account of their debilitated condition, are prone to other diseases, and are subject to "incidentals" which require surgical intervention. These demand and should have prompt attention, but after granting all this, I am forced to believe that the majority of such patients should be treated not as having a primary organic pelvic disease, but as suffering from functional or symptomatic disorders, and, furthermore, that the gynecologic, obstetric and surgical aspects of pellagra are factors which not only the general practitioner must consider, but with which specialists of several kinds who live in the pellagra zone must hereafter reckon for the real welfare of their patients.

Pellagra: Its Relation to Insanity and Certain Nervous Diseases

Dr. J. W. Mobley, Milledgeville, Ga.: In considering a specific factor as the sole cause of pellagra, we are brought face to face with many conditions which speak both for and against the theory that the disease is produced by a specific organism and its toxins. Other specific factors are shown in the protozoan theory, which so closely allies syphilis with pellagra as to make the clinical picture at times quite similar. The peculiar cell observed by Cross of Georgia, with a chlorophyl-like content, is on the side of a specific infection. He describes these cells as about the size of hookworm eggs, either round or oval in shape. He suggests that they may have been altered epithelial cells, but their morphology seems to be unaltered. The specific fungus (aspergillus) which grows on corn will also grow on cheese, and may account for the disease in many instances, in which the history of a corn-free menu is obtained. Syphilis and tuberculosis should be considered in relation to pellagra. The records of the State Hospital for the Insane of Georgia show that 10 per cent. of patients dying of pellagra manifested localized or general tuberculosis.

Dr. N. P. Walker, of the Georgia State Sanitarium, reported that out of 89 cases of pellagra among the insane colored females, only 19 or 21 per cent. were infected with the disease at the time of admission. The remaining seventy exhibited the first known symptoms of pellagra after admission.

DISCUSSION

Dr. W. H. Dial, Laurens, S. C.: Is it absolutely necessary for a patient to have a dermatitis in order to make a diagnosis of pellagra?

Dr. J. W. Babcock: Students in the London School of Tropical Medicine are taught that they must make a diagnosis of pellagra regardless of dermatitis. In other words, they must diagnose cases of pellagra without waiting for the skin manifestations. Italians emphasize the importance of obstinate diarrhea, marked mental symptoms, and axaggerated knee-jerks. I think it is up to the general practitioner to emphasize for those who only see this condition in the advanced stage the particular symptoms by which an early diagnosis of pellagra can be made, disregarding the skin manifestations altogether.

Dr. M. B. Young, South Carolina, mentioned the case of a farmer, who had pellagra without any dermatitis when he first saw him. He had increased knee-jerks, stomatitis, but no diarrhea. He was constipated. In working about the store he would pick up an article and then be unable to put it down, so that it was necessary for some one to take it from his hand. Again he would start to walk in one direction, and then go in the opposite direction. He would attempt to sit in one chair in a room, and immediately get into another. Later, when mental symptoms manifested themselves the dermatitis came on.

Dr. B. R. Tucker, Richmond, Va.: I have the histories of nine cases of pellagra, and in eight excessive crying was noted as a symptom.

Complement Fixation with Lecithin as Antigen in Pellagra; Further Observations

Dr. C. C. Bass, New Orleans, referred to his previous publication (The Journal, Oct. 9, 1909) reporting complement-fixation tests with lecithin as antigen in six cases of pellagra. He reported the result of the test in 10 more cases and tabulated and summarized the 16 cases. Four of the cases, all positive, are ruled out because of syphilis, malaria or autopsy blood; 8 of the remaining 12 gave positive reactions and 4 negative. The 4 negative cases were of the severe type; 7 of the positive cases were mild or chronic cases; 1 was severe. He called attention to the fact that the Wassermann reaction and its modifications with lipoid substance as antigen have been found in protozoan diseases and not in those caused by bacteria. The hemolytic unit used is 0.2 c.c. sheep corpuscles. The amount of patient's serum used per hemolytic unit is 0.1 c.c. The lecithin solution is 0.1 c.c. of a 0.3 per cent. solution in equal parts absolute alcohol and salt solution.

The Wassermann Reaction (Noguchi Modification) in Pellagra

Dr. Howard Fox, New York City: Thirty cases of pellagra have been tested by the Noguchi modification of the Wassermann reaction. I would have preferred to have performed both the regular Wassermann and Noguchi tests simultaneously, but owing to the limited amount of time available, it was only possible to employ the more convenient modification of Noguchi. The cases examined included eight white and twenty colored women, one white man and one colored boy. All the patients were from South Carolina except one, and were inmates of the State Hospital for the Insane. All the cases, with perhaps one exception, have shown unmistakable symptoms of pellagra, though at the time of examination some did not present very active symptoms of the disease. The patients which were chosen for examination were those which apparently showed no evidence of syphilis. To have excluded syphilis from the patients' history would have been difficult or impossible from the nature of the cases. The technic was that described by Noguchi and by myself in previous communications. The materials used included 0.04 c.c. of fresh guinea-pig serum. A weak suspension of human corpuscles (preferably washed) in the proportion of one drop to 4 c.c. of physiologic salt solution, one capillary drop of patient's serum (active) and the antigen and amboceptor in paper form. The tubes were incubated for one-half hour for the first and two hours for the second period, after which the results were read. Two different antigens were used in testing every case. One of these consisted of an extract of syphilitic liver; the other (especially prepared by Dr. Noguchi for the present investigation) was a composite extract of syphilitic liver and normal hearts and kidneys. Both had previously been tested by Dr. Noguchi and found to be entirely satisfactory. In performing the reaction, a known negative serum and one or more known positive serums were always used for comparison. The positive serums included five cases of syphilis and two of leprosy which I had previously tested and found to be strongly positive. The entire series of thirty cases was tested four times. With one exception, no strongly marked positive reactions were obtained. In this case it was later found that a previous syphilitic infection was probable. In two other cases there was a positive reaction of moderate intensity, and in five cases the reaction was only weakly positive. Even in the cases giving a moderate positive reaction the inhibition of hemolysis was far from being complete and was very easy to distinguish from the marked reaction given by the syphilitic and leprous serums. While positive reactions are at times given in apparently non-syphilitic cases, there appears to be only one disease, namely, leprosy, in which a strong positive reaction is a frequent occurrence. In an examination of fifteen cases of leprosy during the past few months in New York I found twelve positive reactions, many of them being very intense; somewhat similar results have previously been obtained by other observers. I feel confident that pellagra will not prove to be a disease in which a positive Wassermann reaction will be frequently found. If such a sensitive test as that of Noguchi (and the objection is sometimes made that it is too sensitive) fails to show many positive reactions, it does not seem probable that they will be obtained by the regular Wassermann method. In conclusion: 1. Cases of pellagra do not often give a positive Wassermann reaction. 2. A positive reaction, when obtained, is generally weak and is easily distinguished from the strong reaction found in syphilis and many cases of leprosy. 3. The value of the Wassermann test is not affected by the findings of pellagra.

Transfusion in Pellagra

Drs. **H. P. Cole** and **G. J. Winthrop**, Mobile, Ala., read a joint paper on this subject in which they reported nine cases of pellagrous patients in which they resorted to transfusion.

It must be noted that the only medicinal agents used in the recovered patients were tonics of strychnin, forced feeding, and in some cases carbonate of iron. In every patient benefited by transfusion the improvement was immediate as shown by a marked gain in weight within the first week, in one instance as much as eight and a half pounds. All the patients, two months after transfusion, are either apparently cured or markedly improved and have gained from five to thirty pounds in weight. Of the fatal cases, one patient was moribund at the time of operation and died three hours after transfusion; one received no appreciable amount of blood on transfusion; another received practically no blood at the first operation and at the second transfusion, when a pellagrous donor was used, while a good flow of blood was received, the condition, we felt, was hopeless. We suggest the following conclusions: 1. Transfusion offers a means of combating the anemia, stimulating the recuperative functions, and perhaps of furnishing antitoxic substances to pellagrins. 2. The lessened mortality and marked improvement in transfused pellagrins leads us to anticipate the establishment of a serum therapy in the disease. 3. Transfusion may be offered as a surgical therapeutic procedure in pellagrous cases pending the perfection of a successful serum therapy.

Etiology of Pellagra

Dr. **J. H. Taylor**, Columbia, S. C.: In the case of pellagra there is irresistibly borne in on us some as yet intangible relationship between corn, especially spoiled corn, and the development of the disease. Now, knowing what we do of the quiescent phases of certain protozoa and the stimuli necessary for their renewed activity, is it not possible that, either one cycle of an organism causing pellagra, if there be such, finds its habitat in corn, or else may it not lie in the tissues somewhere, possibly the intestinal tract, and the ingestion of corn, producing the chemical stimulus necessary to its development, there results an invasion of the host with a development of the usual symptoms? It seems to me that this would account for the recrudescences following the eating of corn products, and also we might reasonably stretch the analogy to include those cases developing sporadically of pseudopellagra, accounting for these by the ingestion of some other product than corn, producing a like stimulus, but much more seldom eaten than corn.

DISCUSSION

Dr. **William Allen**, Charlotte, N. C.: Dr. Taylor in his paper drew an analogy between the treatment of syphilis and pellagra. I have had several patients who gave a past history of syphilis. They were first put on the treatment recommended by Babes last winter, but no improvement was noted. Later, when put on hypodermic injections of the salicylate of mercury, they recovered.

Dr. **Walter H. Buhlig**, Chicago, detailed some experiments that were carried on at the Peoria State Hospital for the Insane under the auspices of the Illinois State Board of Health. He found no amebas in the city water of Peoria. He found none in the city water used at the institution, contrasting this with a previous experiment in which he had found them. In the well water no amebas were found, but in the water which came from a refrigerating plant large numbers of amebas were found.

Dr. **H. J. Nichols**: The parasitic theory of any disease is very attractive, but I do not think we are safe in following Dr. Taylor's lead on this proposition. We had a similar experience with beriberi, which has been a problem in the tropics for many years. First, the disease was ascribed to rice; then it was thought a protozoon or bacterium was the cause of the disease. Finally, it has come back to rice again. While there is undoubtedly some definite connection with rice, the question has not been solved. We have been through the same phases in that disease as we have in pellagra. It was thought at first and even now that some protozoon or bacterium in the diet plays a causal rôle, but that is purely a psychologic reaction rather than a reaction based on reliable data.

Dr. **J. J. Watson**, Columbia, S. C.: I have had an extensive experience with pellagra, but there is no drug that cures the disease. Arsenic does not do any good. I have seen patients recover when I have given them morphin. On the other hand, I have seen some of them recover when I did nothing and was out of the way. The argument that such and such a drug, which acts beneficially and curatively in protozoal diseases, does not hold good in pellagra. Ordinary, good corn does not produce pellagra, but damaged corn does so. That is the experience of men who have studied the disease very carefully and closely for generations.

Dr. **W. H. Dial**: In the last few years the manner of harvesting corn has had something to do with damaged meal. It is the harvesting of corn before it has had time to mature, and undoubtedly this has something to do with the prevalence of pellagra in the South and elsewhere.

Dr. Hiram Byrd, Jacksonville, Fla.: If there is any one thing that has been impressed upon me at this Conference it is that we do not know the etiology of pellagra, that we are to-day in the dark. This Conference has assumed both a national and international character, and every part of the world is represented here either in person or in sentiment. The proceedings of this Conference will be read with avidity by the entire world. Is it a safe thing, in the present state of our knowledge, for us to put ourselves on record that corn is the cause of pellagra? I contend that it is not. It is better for us to say: "We do not know." This is a scientific question, and we ought not to accept anything short of absolute proof which the most exact science can give. So far as corn as a cause of the disease is concerned, we can say it is unproved.

Dr. J. D. Jones, Sweet Water, Ala.: This disease has been under my observation for three years. For a year and a half we did not know what it was, but with the aid of Dr. Searcy we were able to diagnose it. I have had during that time three deaths from this disease. I have now under my care three patients who are insane with this disease, one of them being near the point of death when I left home. Damaged corn may produce the disease, but pure, fully developed corn that is hardened by the rays of the noonday sun will never produce pellagra. People are becoming frantic in various sections of the South over the idea that corn produces pellagra. Such an impression should not be conveyed by this body.

Dr. Louis Leroy, Memphis: That a relation exists between pellagra and damaged corn there can be no doubt, just as there is a relationship between impure water or impure milk and typhoid fever, but the last word has not been said in regard to the etiology of pellagra. Corn undoubtedly acts as a carrier of infection. I believe we shall have to look to some protozoon or micro-organism as the cause of the disease. It is my belief that some day we shall discover a living cause; but let us not go on record as saying that it is corn, and only corn, that produces the disease, but let us say, it is corn and something in the corn that cause the disease.

Pellagra at Nashville, Tenn.

Dr. J. M. King, Nashville, Tenn., contributed a paper on this subject, which was read by Dr. Louis Leroy, Memphis, in the absence of the author. There were two groups of patients, one occurring in the Baptist Orphanage, consisting of seventeen cases, the other consisting of two cases, which were found in the country fourteen miles from the city, and one single case. Each case was reported in detail. In commenting on the two groups reported, the first consideration is: Has there been any transmission of the disease from one case to another through food or any other way? Is the disease infectious? There seems to be absolutely no doubt as to the diagnosis of these cases. In the orphanage the disease was first introduced by a family of children from destitute parents; later, up to 1909, other cases developed in the same institution, and in children from all sections of the state. It does not appear that the children outside of this immediate family of four entered the institution with the disease. Every proof shows that they contracted it there. Every proof shows that the disease was introduced by the youngest member of this family of four, the other three members being also affected later, with the intensity of the disease less in the older children. The food at the orphanage was wholesome, well prepared and well served. The inmates showed all evidence of being well fed. Their food, in fact, was equal to that of the average home. The corn meal from which their corn bread was made was procured from one of the most reliable millers in the city of Nashville, and all the children ate the same quality of bread. The same grade of corn meal is used by the Central Tennessee Insane Asylum. A most careful inspection was made of that institution by Dr. Lavinder, Dr. Tucker. Dr. West, and myself, and not a single case of pellagra was found even among the colored female inmates. In one group it appears as if there was a direct transmission of the disease to the woman from washing the clothes of one patient. The man had a well-marked case of pellagra. The woman did his washing during the winter and in the spring developed the disease. There seems to be no other way by which she could contract it. He came into the community with the disease. There was nothing in common between the two, as far as we could learn, except this washing. On the face of the report of these two groups, this disease has every appearance among us of being infectious, or in some unknown way communicable.

DISCUSSION

Dr. C. H. Lavinder: I visited Nashville and saw the cases there, and while I admit there is some reason for the conclusion drawn by Dr. King and others that pellagra is transmissible, yet I do not think we should come to a general conclusion that it is infectious or transmissible from one or two cases. Therefore, in a friendly way, I wish to offer my protest against such a conclusion.

Dr. W. E. Hibbett, Nashville: I wish to emphasize some of the facts in connection with this paper. We have three state institutions and one county institution, besides the Baptist Hospital, in the immediate vicinity of Nashville, the inmates of which all receive the same food. In all the other institutions, except the Baptist Orphanage, the number of inmates is relatively large. In the Baptist Orphanage there are only about 75. The disease was brought in, as the paper states, by a child from Newport, four members of the family having the disease, one case developing after another until we had seventeen cases in that institution. After a most careful study, with the exception of the other group alluded to, no other case was found in the vicinity of Nashville, or in any of the institutions. While we have not gone on record as stating that the disease is transmissible, yet with these facts before us, what else can we think than that the disease is communicable from one person to another? We are not trying to establish the infectious nature of pellagra, but we are here to learn and are open to conviction. We have been criticized for what was supposed to be the quarantining of these cases. We do not quarantine them, but have carried out what we term advisory isolation, made necessary because of the peculiar surroundings of the cases in the Baptist Orphanage.

Dr. Louis Leroy: So far as amebas and uncinariæ are concerned, in none of our cases in Tennessee have amebas or hookworms been present. Amebas, however, are prevalent in the neighborhood of Memphis. We have an area there in which amebiasis is endemic; still I have never seen a case of amebiasis give evidence of pellagra, nor have amebas been found in any of our pellagrous patients, although they have been sought for diligently in each case.

Facts and Theories of Pellagra

Dr. H. E. McConnell, Chester, S. C.: My paper is based on twenty-four cases, dating back to 1903. In each case there has been a definite history of corn products of questionable character having been used, and this puts me in the class with those still holding to the maize theory as to the causation of the disease. It seems strange that after the lapse of centuries a disease due to damaged corn should come back to us from the old world when the seed was first obtained in America. I believe this fact due entirely to the changed methods of cultivating and harvesting corn, whereby unmatured corn is placed in the most favorable condition for fermentation and fungus growth. From the similarity of the disease in all cases, I am led to believe that it is due to a fungus or bacillus with their toxins associated with spoiled corn. Its port of entry is through the stomach and intestines, and when once engrafted it is hard to dislodge. All my patients had in the beginning a stomatitis, salivation, burning in the stomach and diarrhea, more marked in some than in others The slowly developing cases usually present symptoms twelve months before the rash appears, the acute cases after a few weeks. By this rash we make the diagnosis of pellagra. The blood shows no specific organism. I believe, further. that this fungus is unaffected by heat, or, which is more probable, enters the stomach with poorly cooked food. Apparently cured patients seem to relapse easily after corn products are used, even though they be of the best quality. While the stomach and intestines are the primary foci, I think most of the symptoms are produced by the action of the toxins on the nervous system. Of the fourteen cases seen this year, the proportion of males has increased to the same as that of females, seven of each. Of these, two females (white) and one colored (male) have died. Of the twenty-four cases, four only were negroes. Three of these I prescribed for during the summer of 1908 as suspected cases of pellagra, only to have my suspicion verified the following spring. The rash is not so distinct or so easily recognized in the colored as in the whites. From these cases, it would seem that no age or sex or race is exempt. The course of the disease has varied from three years to a few weeks. In regard to treatment, atoxyl was given widely this year, but not hypodermically, as these patients were not directly under an attendant capable of giving these injections. The results have not been superior to Fowler's solution and hydrogen peroxid. The leucodescent light had the most beneficial effect on the erythema of any remedy tried.

Symptoms of Pellagra

Dr. J. J. Watson, Columbia, S. C.: The malady is so insidious in its onset that it is difficult to state what are the earliest premonitory symptoms. The first thing usually complained of by the patients is some gastrointestinal disorder. This may be loss of appetite, burning sensation in the epigastrium, excessive desire for food or drink, or more often diarrhea with more or less stomatitis and salivation. Soon after these digestive disorders manifest themselves, or coincident with them, the patient detects a disinclination to any exertion. Duties that were formerly dispatched with a feeling of pleasure are now looked on as a dread; and procrastination takes the place of promptness; so that the personal appearance of the victim, or the aspect of the home and children, if the sufferer is a woman, indicates neglect, all of which is evidence of the psychic depression that forms later a prominent figure in the clinical picture of the disease.

Skin Symptoms.—After these symptoms have persisted with unusually increasing severity, in some cases for weeks, in others for months, the characteristic symptom of the disease appears, namely, erythema on the hands and arms not covered by the clothing. The skin eruption may be either dry or wet. In the dry form it appears usually in the early spring months, and while it is one of the most characteristic features of the disease, it is *per se,* one of the most insignificant, as very few patients suffer any physical discomfort from it. They complain principally of the unsightliness. The eruption begins as an erythema on the backs of the hands and extensor surfaces of forearms, extending up the arms to the point that the sleeves reach, and ends abruptly there, being absolutely symmetrical if the sleeves are symmetrical, which is usually the case. In persons who do not hold their hands the eruption extends to the flexor surface in a characteristic shape; beginning on the radial border it extends toward the ulnar by an oblique line forming a patch of erythema on the flexor surface, somewhat triangular in shape, the base of the triangle being the radius and the apex near the ulno-carpal articulation. Patients who are well advanced in the disease and unable to work, and who sit about and hold their hands have the eruption on the flexor surface, to the same extent as on the extensor surface. The erythema lasts for a few days and then begins to fade and the skin to desquamate in fine scales if the dermatitis has been mild. As the redness fades the site of the erythema assumes a somewhat cyanotic hue. This is gradually replaced by a characteristic light liver or chocolate color, which, if once seen, cannot be mistaken or confounded with any other skin disease. In negroes it is readily recognized by an increase of pigmentation, the site of the eruption appearing as though soot had been smeared on that part of the hand and arm. The patients often make vain attempts to remove the dirty appearance of the hands with soap and water. After a time the eruption scales off and leaves the hands soft, velvety and glistening, quite a contrast to the dirty hands that they were the sorrowful possessors of only a few weeks before, but the erythema reappears and the eruption follows the same course as previously described. This may happen several times during the summer. As a result of these repeated inflammations the hands become hard and wrinkled and frequently deep fissures occur on the fingers, notably the index finger, at or near the first joint. Portions of the body covered by the clothing subjected to pressure also show the eruption in some cases. The skin over the olecranon, trochanter, sacrum and knees is especially liable to become affected. The forehead, face and neck are often the seats of the eruption. In those who go barefooted the feet and legs do not escape. The eruption commences in the spring months and persists until July, August and September, and then disappears to make its appearance in the following spring. In some cases there is a mild relapse in October. The crowning characteristics of the pellagra eruption are the symmetry and color. After the pigmentation has been exfoliated there usually remains a fringe of dirty appearing epithelium, a relic of the line of demarcation of the dermatitis. In some cases the sebaceous glands on and around the nose are hyperactive, there being a seborrhea. The wet form differs only in degree. When the dermatitis is severe, bullæ form, sometimes containing serous, serosanguineous or seropurulent fluid, and when the bullæ break large ulcers are left to mark their site, or large flakes of skin desquamate, leaving a raw surface. Slight cicatrices remain as evidences of former ulcerations. The whole clinical picture is analogous to a burn of the first degree. The wet form involves a greater area than the dry, such as the axillæ, groins, etc. This form has been frequently diagnosed as dermatitis exfoliata.

Digestive Disorders.—The buccal mucosa becomes very red, the tongue and mucosa of the lips showing particularly this characteristic symptom. If the throat is examined, this redness will be observed as far as one can see into the pharynx. Flakes of exfoliated epithelium will be seen adhering to the gums, and the tongue being denuded of its epithelium, is smooth and glistening. Now its color is cardinal red, and it is a cardinal symptom of the disease, so that I have denominated it the "cardinal tongue." Sandwith calls it the "bald tongue." This stomatitis is accompanied by a profuse flow of thick saliva, in some cases so profuse that the saliva dribbles out of the corners of the patient's mouth. Intelligent patients suspect they have been salivated by mercury. When the mouth is open, strings of saliva will extend from the upper to the lower teeth. My attention was directed by Dr. Babcock over a year ago to small black or bluish-black spots on the tongue, and since then I have observed these papillæ in a number of cases, all negroes. The name of "stipple tongue" has been given this condition by Dr. Lavinder. The tongue may be either pointed or large, flabby, swollen and indented. The salivary glands may be swollen and tender. This with the salivation and conditions of the swollen gums has been mistaken for mercurial salivation, but in mercurial salivation there is always a disagreeable odor to the breath, and while there is an odor to the salivation in pellagra, it is not the same disgusting fetid odor that is characteristic of mercurial ptyalization. The acme of the stomatitis corresponds to the acme of the eruption on the hands. Other mucous membranes are inflamed. Proctoscopic examination reveals a bright red mucous membrane as far up the gut as can be seen. Hemorrhoids are frequently complained of. One of my patients complaining thus showed on examination only an intense redness of the mucosa, still she insisted that she suffered acutely from piles. This patient was in a state of mild delirium, and possibly there was some irritation that caused her to refer to trouble in that locality. She was far advanced in the disease, and this was the only symptom of which she complained. It is unusual for patients to complain of discomfort in this locality. The mucosa of the vagina is also the seat of inflammation, and vulvovaginitis is not at all infrequent.

A burning sensation in the esophagus and stomach is frequently present. Pyrosis is sometimes a prominent feature, with or without belching. "Pyrosis is never absent" (Lombroso). Vomiting occasionally occurs, but it is not a constant feature of the disease. When the disease is advanced dysphagia is complained of by some patients, and this may be accompanied by strangling when fluids are taken. Marked gastric symptoms are present in some cases. I have known a case of pellagra diagnosed as gastric cancer.

Diarrhea is a feature of the disease at some time in its course. It varies from a few soft stools a day to twenty or more, and they are frequently involuntary when the patients are bedridden. In a number of cases I have noticed that the stools are as frequent at night as in the day. The diarrhea is obstinate and not affected by the ordinary treatment of diet. I have seen it persist in spite of large doses of bismuth and opium and a rigid diet, and improved when drugs were discontinued and diet not restricted. It is not dependent on errors in diet, but is a neuropathic manifestation due to disease of the spinal cord and involving the sympathetic system. The fact that the normal reflex in the intestines is greatly increased by disturbance of the sympathetic nerves may explain the diarrhea, since it produces hyperperistalsis in the same manner that irritants applied to the skin produce an exaggerated vasomotor dilatation with the erythema as a result. In rare cases there may be constipation. These cases are mild and show slight mental depression or none at all. In the terminal stage, when rise of temperature sets in, the diarrhea frequently stops. Meteorism is present with the diarrhea, and sometimes persists after the bowels have lost their frequent action. The diarrhea follows the same course as the erythema and stomatitis, namely, it has exacerbations and remissions and persists through the spring and summer months, with a slight recrudescence in October, then disappears during winter to reappear the following spring.

Eye Symptoms.—Pupillary abnormalities are striking in some localities and in some seasons, varying from year to year. In 1908, in South Carolina, pupillary dilatation was the rule, the mydriasis being extreme in some cases. It may be either bilateral or unilateral. If unilateral, the right pupil is most apt to be dilated. During 1909, I have seen few patients with dilated pupils. Contraction of the pupils is sometimes met with. The pupils react sluggishly to both light and accommodation, and resist the action of homatropin considerably longer than the normal. Diplopia and photophobia are not usual. These pupillary phenomena must be due to a disturbance in the cilio-spinal center.

Pain in the back was a striking feature in some of the Italian patients whom I saw. The pain was so severe that the sufferers walked stooped over. I have had only one patient complain of pain in the back among the number studied in America. Pains in various portions of the body are often complained of. Tenderness at some point along the spinal column is almost constant. It is usually in the mid-dorsal region and is easily elicited by pressure with the fingers along the spine. The tenderness varies on the two sides, in some cases being more acute on the right. The tenderness is not over the spinous processes, but over the point where the nerves emerge from the canal.

The mild cases are practically afebrile, namely, temperature less than 100 F. The morning temperature is often subnormal, 96 and 97.5 F. A temperature of from 102 to 108 F. or over is not unusual in cases progressing to a fatal termination. The pulse is increased to from 80 to 100 in ordinary cases, but increases with the toxemia or temperature, and counts of 160 are not unusual in fatal cases. There is nothing characteristic about the urine, except that alkaline urine is a bad prognostic sign (Lombroso). The reflexes are usually exaggerated, although they may be normal, diminished or lost. Like other signs, they vary with the locality and season. The patellar tendon reflex is especially more lively, the slightest touch eliciting a lively jerk. The knee-jerk varies on the two sides, in some cases being more lively on the right, the side that has the most exquisite spinal tenderness. In severe cases, or rather in those in which there are tetanic contractions, ankle clonus may be found. In paretic patients the reflexes are abolished. There is usually analgesia or anesthesia at the site of the eruption.

Vertigo is complained of by nearly all the sufferers, and should always be asked about, if not mentioned by them. Its presence should excite suspicion and other pellagrous stigmata sought for. Mental depression is as constant as the erythema and diarrhea and varies from a mild case of the blues to severe melancholia. Hallucinations and delusions are sure to occur at some time in the disease, and no two patients will have the same delusions. In Italy 10 per cent. become insane. As yet, we cannot form any opinion as to what proportion of our patients will become insane, but if records of cases are kept it will be a very easy matter to ascertain what proportion is demented. While pellagrins are never talkative, at times they complain of real or imaginary ills. As the disease advances they talk less, often not answering questions, and finally pass into a state of absolute mutism. This portion of the pellagrous syndrome is important and properly calls for separate consideration. The gait is either simple paralytic or paralytic spastic. The patients walk with their legs far apart, and as paresis sets in the stride is very much decreased, and the patient assumes a peculiar shuffling gait.

DISCUSSION

Dr. C. L. Minor, Asheville, N. C.: In considering the symptoms, Dr. Watson failed to mention one which I regard as of the greatest importance, namely, the peculiar slimy green stool, with a sickly, disagreeable odor.

Dr. J. J. Watson: In the South Carolina State Hospital for the Insane it has been observed that the nurses can make a diagnosis of pellagra, before the skin eruption appears, by the offensive odor and characteristic appearance of the stools.

Amebas in the Stools of Pellagrins

Dr. W. Allen, Charlotte, N. C.: 1. Pellagra is often complicated by amebiasis. 2. Many varieties of amebas may be found in the stools of pellagrins. 3. Pellagra is liable to be mistaken for amebiasis, and *vice versa*. 4. In diagnosing and treatment of pellagra, in the absence of pathognomonic skin lesions or mental symptoms, it is first necessary to exclude amebiasis.

Results of Stomach Analyses in Pellagra

Dr. W. O. Nesbit, Charlotte, N. C.: In this paper I report the results of the analyses of the stomach contents of 10 cases of pellagra. Four showed a marked diminution in the acid factors of the gastric juice in the late stage of the disease. Five showed an excess of mucus during the pellagrous periods. Six showed normal motility, while in 3 the motility test was not made. Four showed the presence of bile during severe vomiting periods. While this series of cases is too small to draw definite conclusions, the indications are that in pellagra, as in all adynamic and sthenic diseases, the hydrochloric acid and ferments of gastric juice are progressively diminished.

Personal Observations on Pellagra

Dr. T. L. W. Bailey, Clinton, S. C.: I summarize my observations of this disease from a study of the cases that have come under my care as follows: 1. The acute uncontrollable diarrhea and its persistence. 2. Salivation with stomatitis, involving the esophagus; the characteristic slick red tongue that does not coat. 3. One case of vaginitis and inflamed anus. 4. A peculiar eruption on back of hands, sides of neck, both cheeks and sometimes tip of nose. 5. A feverless disease. 6. The hyperesthetic knee-jerk occurring primarily in all cases which should always be examined. 7. Insomnia, hallucinations and acute insanity. One of my cases developed locomotor ataxia and insanity.

Dr. Rea Parker, State Hospital, Williamsburg, Va., reported his clinical observations on 4 cases of pellagra, and called attention to one symptom not noticed by others, namely: On the evening of the thirty-eighth day the patient, a male, had a mild convulsion, the pupils becoming irregular, dilating and contracting alternately without any external stimuli, one pupil reacting independently of the other.

Is Pellagra Communicable or Hereditary?

Dr. H. H. Griffin, Columbia: 1. The conclusion that pellagra is not communicable is based on the authority of men of great minds who have spent a lifetime in the study of this disease. This seems to be the universal conclusion of those who, by virtue of a large experience, are in a position to speak, and from the 100 or more cases that have come under the observation of the staff of this hospital. 2. Pellagra is probably hereditary, that is, in the form of a predisposition or a mild tendency, such a tendency as we now believe to be inherited in tuberculosis or even in insanity. The hereditary pellagrin is especially vulnerable, not only to pellagra, but to physical and mental degeneration, including insanity.

DR. CROWN TORRENCE, Union, S. C., detailed a case of labor in a pellagrin, with the subsequent history of the mother and child.

Prognosis of Pellagra

DR. JAMES H. RANDOLPH, and **DR. RALPH N. GREENE**, the Florida Hospital for Indigent Insane: The disease does not seem to be confined to any one section or locality in the state, our cases having been received from fourteen different counties, scattered irregularly through Florida from one extreme to the other. As to social scale, the five white women patients represented as many different walks of life, from a pauper epileptic idiot to a highly educated elderly woman of refinement, now in the stage of terminal dementia, and includes a farmer's wife, a mechanic's wife and a prostitute. Among the colored women the patients were recruited from the turpentine camps of the state, where there is a noticeable absence of general or personal hygiene, and one had been employed in packing leaf tobacco, but inquiry revealed the fact that she had long been a simple-minded dissipated individual, addicted to the use of snuff and "nigger" gin. The ages of the patients that have come under our observation range from that of a child of 13 years old to that of an aged woman; also one negro man, over 80 years of age, the majority being around 40. Of 5 cases embodied in a former report from this hospital, there was a complete subsidence of symptoms in the case of a white man, which has continued to the present time, and has been interrupted only once for a short period, when a return to general diet, including daily ration of corn bread, was accompanied by slight erythema and slight gastro-intestinal symptoms. Of the 13 more recent cases, 11 of which were among women, there has been complete subsidence of symptoms in 2, 1 of whom has returned home, and 2 more still under treatment show great improvement at the present time, with prospects reasonably good for recovery. All those who died *gave undisputed evidence of serious complicating conditions*, such as senile debility, tuberculosis and syphilis, and this applies with equal force to the new cases seen among the men, both of whom have died. An analysis of these figures gives a ratio of recovery of about 1 in every 4 or 5 cases.

Pellagra in the East Mississippi Insane Hospital

DR. J. M. BUCHANAN, Meridian, Miss., presented short histories of the cases of pellagra in this institution:

These cases establish the fact that pellagra has existed in Mississippi for several years unrecognized, for they give histories of from two to ten years' duration. However, I do not think pellagra cases occurred in bunches prior to 1906. The first known case in Mississippi was observed at the Insane Hospital in November, 1907, although it was not recognized as pellagra until after the appearance of Dr. Babcock's report, which was several months after the death of the patient. In April, 1908, Dr. W. R. Card made a report of 2 cases before the Mississippi State Medical Association, but that report did not command a passing notice. Since then seven other patients have been received. No case has developed in the hospital I have no data as to the number of cases in Mississippi, but as many reports have been made from various sections, I feel safe in saying the number has passed the 100 mark. I believe in the corn theory and try to attribute the cause to imported western meal, but three of my patients came from interior counties, and the people state that all the meal used was from home-grown corn ground at nearby mills. I have known pellagrins to be made worse by eating good corn bread, and there may be something in the bread itself that causes the trouble, and it may not be altogether due to a supposed toxin. Careful inquiry fails to find a local cause. All the patients were country people, fairly well to do, living in open houses, and using good spring or well water. In some cases skin lesions were the first symptoms noted. In others, general bad health and diarrhea were first noted; the skin lesions appeared later Treatment was practically the same for all, and consisted of tonics and special diet. Atoxyl was given by deep injections, beginning with 1 grain and increasing up to 4 or 6 grains a day. For the bowel trouble betanaphthol, in combination with astringents, gave the best results. The mental manifestations were of the manic-depressive type, and were variable In 3 cases there was known hereditary taint. Of the nine patients, one made a good recovery, both mentally and physically. Two recovered from somatic troubles, with little improvement of mind. Three died, and three are still under observation, with no improvement.

DISCUSSION

DR. SARA A. CASTLE, Meridian, Miss.: Of the many patients with pellagra whom I have treated since it was first recognized in Meridian, six were socially prominent in the city, and five of these died. This is not necessarily a disease confined to the poor, according to a prevailing popular impression. All my patients were eaters of corn bread and grits. Several of my hookworm patients subsequently developed pellagra and died.

Other Papers Read

The following papers were also read: "Pellagra in Yucatan," by Dr. G. F. Gaumer, Yucatan, Mexico; "Pellagra in Jamaica," by Dr. D. J. Williams, Jamaica, W. I.; "Personal Experience with Damaged Corn," by Mr. J. S. Whaley, Edisto Island, S. C.; "A Theory as to the Cause of Pellagra," by Dr. C. S. Pixley, Winnsboro, S. C.; "Report of a Case of Pellagra Universalis," by Dr. J. R. Miller, Rock Hill, S. C.; "Report of a Sporadic Case of Pellagra," by Dr. John Lunney, Darlington, S. C.; "Report of Six Cases of Pellagra," by Dr. Theodore Maddox, Union, S. C.; "Pellagra in Children," by Dr. M. B. Young, Rock Hill, S. C.; "Infants of Pellagrous Parents," by Dr. D. S. Pope, Columbia, S. C.; "Diseases of the Eye in Pellagra," by Dr. A. B. Clarke, Plantersville, S. C.; and "Eye Symptoms of Pellagra," by Dr. E. M. Whaley, Columbia, S. C.

Resolutions Passed

The Committee on Resolutions, composed of Dr. J. H. Way, Waynesville, N. C.; Dr. Charles L. Minor, Asheville; Dr. J. T. McAnally, Illinois, and Dr. C. C. Bass, Louisiana, presented the following:

1. *Resolved:* That we appreciate most highly the splendid work performed by Dr. C. F. Williams, the efficient secretary of the South Carolina State Board of Health, in organizing and successfully promoting this conference for the study of pellagra.

2. *Resolved:* That we tender our sincere thanks to Dr. J. W. Babcock, whom we justly recognize as the father of the movement for the study and control of pellagra in America, for his valuable labors and his many courtesies to this body during our session.

3. *Resolved:* That the purposes for which this conference was called can best be furthered by its formal organization into a permanent association of national scope, and that the committee on permanent organization be instructed to report at this session.

4. *Resolved:* That this conference recognizes the widespread existence of pellagra in the United States and urges on the national government the necessity of bringing its powerful resources to bear on the vital question of its cause, prevention and control.

5. *Resolved:* That while sound corn is in no way connected with pellagra, evidences of the relation between the use of spoiled corn and the prevalence of pellagra seem so apparent that we advise continued and systematic study of the subject, and, in the meantime, we commend to corn growers the great importance of fully maturing corn on the stalk before cutting same.

6. *Resolved:* That the work of this conference be brought to the attention of the various state and territorial boards of health, and that they severally be urged to specially investigate the disease, particularly as regards its prevalence, and that they also see that the proper inspection of corn products sold in the various states be had.

7. *Resolved:* That the secretary be instructed to convey to the family of the late Cesare Lombroso, our sympathy in their loss and our appreciatiton of his great work in the study of pellagra.

8. *Resolved:* That all papers and discussions of this conference be referred to the Committee on Publication with full power to publish the same as they deem fit.

On motion of Dr. J. Howell Way, seconded by Dr. I. M. Taylor, the resolutions were adopted unanimously by rising vote.

Permanent Organization Founded

The Conference perfected a permanent organization, which is to be known hereafter as "The National Association for the Study of Pellagra." The membership is to be composed of medical and scientific workers who are interested in the prevention, study and control of this disease.

Officers Elected

The following officers were elected: President, Dr. J. W. Babcock, Columbia, S. C.; first vice-president, Dr. W. A. White, Washington, D. C.; second vice-president, Dr. C. F. Williams, Columbia, S. C.; secretary-treasurer, Dr. George A. Zeller, Peoria, Ill. Peoria, Ill., was selected as the place for holding the next meeting; time, June, 1910.

DELAWARE STATE MEDICAL SOCIETY

One Hundred and Twentieth Annual Meeting, Held at Dover, Oct. 12, 1909

The President, DR. HENRY J. STUBBS, Wilmington, in the Chair

The address of welcome was delivered by Dr. P. S. Downs, Dover.

The officers elected were given in THE JOURNAL, Oct. 23, 1909, p. 1406.

President's Address: Review of Progress, Particularly in Surgery and Gynecology

DR. HENRY J. STUBBS, Wilmington, called attention to the fact that no particular achievements had been accomplished during the past year, but that there had been a steady onward progression.

Reports of County Societies

The report of the Kent County Medical Society was presented by the secretary, Dr. P. S. Downs, Dover, who outlined in detail the work that had been carried on by the society during the past year. He stated that the subject of preventive medicine had received a great deal of attention. He believed that relief from tuberculosis was largely dependent on the education of the public and hygienic measures and the securing of the cooperation of the public, as a means of which he suggested the value of the publication of medical articles in the law press, the publication being supervised by a proper committee of the state or county society.

The report of the New Castle County Medical Society was presented by Dr. Harold Springer, Wilmington, who stated that during the past year papers had been read before the society by prominent specialists, on insanity, carcinoma, epilepsy and other subjects, and that the average attendance at the meetings had been twenty-nine, as compared with twenty-two in the previous year.

The General Principles Underlying Modern Therapeutics

DR. A. ROBIN, Wilmington, referred at length to the efforts made by Nature to repair the various organs after injury, and referred to a case of a Russian who suffered from severe injury to the intestines, in which several hours elapsed between the injury and treatment, during which time the patient was subject not only to infection from the feces which were escaping, but also from foreign substances, yet the man made a good recovery. Dr. Robin contrasted this case with that of the late President McKinley, whose wound resulted fatally, although immediately given the best of surgical attention; and urged that the therapeutic measures in these cases be such as will assist Nature in her efforts.

Medical Ethics

DR. G. FRANK CAMPBELL, Selbyville, cited in full the Principles of Ethics as laid down by the American Medical Association, and condemned advertising, whether by direct notice of the press, or any other manner, which directly or indirectly might be used to bring the practitioner and his skill before the public, with a view to increasing his practice and pecuniary return. He emphasized particularly the need of a closer observation of ethical rules when asked to attend an individual whom the physician knows to be the patient of another doctor, and also the fact that a consultant should not give an opinion except in the presence or with the consent of the attending physician. The need of these rules, he stated, was especially apparent in the country districts.

DISCUSSION

DR. H. W. BRIGGS, Wilmington, felt that there was need for the teaching of more ethics in the medical schools, and urged the importance of laws making the persistent violation of the Principles of Ethics a ground for the revocation of a physician's license.

DR. P. W. TOMLINSON, Wilmington, emphasized the benefit to be derived from writing papers, and reporting cases, both by the writers of the paper and those who hear them, and urged the members, including the practitioners in the country districts, to do more in this direction.

DR. CHARLES A. E. CODMAN, Philadelphia, referred to the importance of organization and frequent meetings of the physicians in the various localities as a means of increasing the standard of medical ethics and the good feeling between physicians. He referred to the establishment of branches of the Philadelphia County Medical Society a few years ago, since which time the membership of that society has increased from 450 to over 1,300. He stated that all the branch meetings were well attended and well participated in by all the members living in the vicinity of the meeting places.

Report of a Simultaneous Case of Intrauterine and Extrauterine Pregnancy

DR. S. G. RUMFORD, Wilmington: In the first pregnancy, the child was entirely free in the abdomen, and at the time of the termination of this pregnancy, there was a normal pregnancy in the uterus of about six weeks. In the abdominal pregnancy the placenta was adherent to the child and there never had been a tubal pregnancy. The child lived but a short time after birth, and the mother also died soon after.

DISCUSSION

DR. JOHN PALMER, Jr., Wilmington, stated that he believed the reason the child died so soon after birth was on account of the pressure which had been exerted upon its head by the abdominal wall of the mother, the whole side of the head being crushed in. He stated that the heart beat was fairly good, and the child gave several good gasps, but soon expired.

The Relation of Chronic Malaria to Acute Catarrhal Conditions of the Nose and Throat

DR. C. J. HARBORDT, Dover, stated that from his observations of persistent catarrhal conditions of the nose and throat he had been led to believe that, in many instances, the trouble was not purely local, and that the malarial germ played some part in the production of the condition. He cited as proof of this fact that in cases in which malaria was supposed to be the causative factor, there occurred, among other symptoms, rise of temperature, catarrhal jaundice, herpes, enlargement of the lymphatic glands, slight albuminuria and nervous symptoms, and the cases frequently yield to the administration of quinin. He also reported several cases in which hemorrhage of the nose had yielded to the use of quinin.

DISCUSSION

DR. E. S. DWIGHT, Smyrna, stated that he had always felt that the throat and nasal conditions were largely due to the dampness of the atmosphere due to the location of the state between the two bays. He stated that there was a great deal of latent malaria present, which promptly became acute when complicated by other illnesses and manifested itself by periodical congestion of the weakened part, every other day, which, of course, in cases of throat disease would manifest itself in the throat.

DR. ALBERT ROBIN, Wilmington, stated that during his connection with the State Laboratory some years ago he had conducted an investigation to find out whether the blood of the people of Delaware contained the plasmodium of malaria, with the result that it was found to be present in only about 2 per cent. of the cases. He believed that many of the cases of supposed malaria were really cases of autointoxication due to drinking surface water. He cited a case, in which a man suffering from pyelitis had been thought to have malaria from his objective symptoms, and also from the fact that the administration of quinin was followed by an apparent cure in the first attack, but in which the blood examination gave a negative report, and a subsequent attack received absolutely no benefit from the use of quinin. He felt that the only way to be sure of the diagnosis of malaria was the finding of the plasmodium in a blood examination.

DR. JAMES H. WILSON, Dover, stated that he believed the reduction in the number of cases of malaria in Delaware was due largely to the better drainage, and remarked that while there is not so much true malaria, as in former years, similar conditions are manifested in malaise, etc., produced by kindred poisons.

DR. P. W. TOMLINSON, Wilmington, stated that in his opinion the cases of true malaria had been largely eliminated from the state, due to the better drainage. He also inquired whether throat specialists had observed any larger percentage of these throat and nose cases at one season of the year than others, as when malaria was so prevalent there was little of it in midwinter.

Dr. Luther S. Conwell, Camden, referred to the mosquito as a means of transmitting malaria, and declared that the decrease in the number of cases was due not only to the better drainage, but also the extermination of the mosquito and the improved screening of dwelling houses.

Dr. H. R. Burton reported the case of a laborer, who had been taken from Boston to Cuba, and two days after his arrival developed tropical malaria. The physicians were at first at a loss to account for the development so soon, but afterward it was learned that shortly before this man left Boston another contractor had arrived at Boston from Cuba with a crew of men, and that tropical malaria had broken out among these men, and as the men were camped close together it was felt that the disease had been carried by a mosquito to the patient in question before he left Boston. Dr. Burton also urged better drainage and the extermination of mosquitoes as a means of eliminating the condition, even, if necessary, the abolition of all water-power mills.

Dr. Charles A. E. Codman, Philadelphia, stated that if it were not practical to abolish the mill ponds the mosquitoes could be eliminated therefrom by stocking the ponds with fish.

Roentgen-Ray Treatment of Carcinoma

Dr. W. S. Newcomet, Philadelphia, stated that the cause of cancer was still unknown, although irritation entered largely into its production, severe, acute irritation being more likely to produce sarcoma, and continued mild irritation carcinoma. He urged early and complete operation in both conditions, followed by judicious use of the *x*-ray. He exhibited a number of photographs of the various conditions, including carcinoma of the breast, epithelioma of the nose, lupus, cirrhus of the breast and other conditions, and directed attention to the fact that when the deeper structures are involved, the disease is usually more violent and the progress more rapid, as well as being more likely to recur, than when the condition occurs on the skin surfaces.

DISCUSSION

Dr. Charles A. E. Codman, Philadelphia, stated that in the beginning cancer was a symptomless disease, and that it was equally distributed throughout all classes and all races, environment or climate apparently having little, if anything, to do with its production. He laid great stress on the importance of prompt recognition and early radical operation, followed by the use of the *x*-ray for a period of three or four weeks after the operation. He declared that growths in the female breast should be looked on as malignant and treated accordingly, unless there is positive evidence of their benignity, and urged radical operation, followed by the *x*-ray for even suspected conditions, believing that if any error was to be made it was better to be on the safe side. He stated that most cases of cancer of the breast occurred in women between the ages of thirty-five and forty-five years, that, as the age of the patient increases, the frequency of the condition decreases, but its severity, when present, increases.

Dr. H. R. Burton urged the necessity for the local practitioner immediately referring suspected cases to competent surgeons for diagnosis, and, if necessary, operation. He cited a case of cancer of the lip, which he had been called to see, which had previously been treated by a country physician for six months without recognition. He immediately advised operation, which was done, and the man was free from the disease for three or four years, at which time some enlargement of the glands appeared and another operation was immediately performed. This was six years ago, and the man is now well.

Rearing of Children.—The influence of unsuitable surroundings, the lack of fresh air and sunlight, may play a part in the development of rachitis in many cases. The dwellings of the poor, especially in cellars and rear houses, do not admit of a proper environment for children.—F. C. Neff, in the *Kansas City Medical Index-Lancet.*

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Fifty-ninth Annual Session, held in Philadelphia, Sept. 27-30, 1909

(Concluded from page 1591)

Officers of Sections

At the section meetings the following officers were elected:

Section on Surgery—Chairman, Dr. Edward Martin, Philadelphia; secretary, Dr. Otto Gaub, Pittsburg.

Section on Medicine—Chairman, Dr. William B. Stanton, Philadelphia; secretary, Dr. Edward M. Green, Easton.

Section on Eye, Ear, Nose and Throat Diseases—Chairman, Dr. G. Hudson-Makuen, Philadelphia; secretary, Dr. John B. Corser, Scranton.

Dr. W. L. Davis of Scranton and Dr. John J. Coffman of Scotland were elected president and secretary, respectively, of the Society of Secretaries of the Component County Societies.

Traumatic Abscess of the Liver

Dr. S. J. Waterworth, Clearfield: The object in reading this paper is to place on record a case of traumatic liver abscess, an affection of interest because of its rarity. The differential diagnosis may be quite difficult and the relation of the general and local symptoms to each other and to the history of the patient should be well considered. The trocar should be used, but in all cases in which it is used the surgeon must be prepared to operate immediately more radically. I believe the operation of choice, except in those cases in which the abscess cavity has approached the upper posterior surface of the liver and in which we have practically a subdiphragmatic abscess to deal with, is free incision and drainage by the upper abdominal route and careful walling off with gauze. A patient operated on three months after injury recovered.

Joint Disease Versus Rheumatism

Dr. De Forest Willard, Philadelphia: This article is written in the hope of arousing the profession to the direful results that constantly occur from the careless and unpardonable habit of calling local joint pains "rheumatism," since the failure to diagnose and to examine patients with joint disease frequently results in a crippled condition which persists for life, long suffering and even death. More than 95 per cent. of joint diseases pass on to these most serious consequences as the result of this careless lack of diagnosing and of subsequent treatment. The pain of tuberculous joint infection at the beginning is usually worse after exercise, and is not accompanied by any local evidences of inflammation. The onset of tuberculous joint disease is usually slow and insidious. The principal diagnostic point will be rigidity. This muscular tension shows that the brain of the patient is already cognizant of the approaching danger, even before a positive pain is recognized as an entity. In tuberculosis the ordinary symptoms of acute inflammation are absent. In disease of the joints in the lower extremity limping is progressive and deformity in the direction of flexion of the joint speedily follows, as flexors are ordinarily stronger than the extensors. Sarcoma of the bone is also frequently maltreated as rheumatism. The vague term "rheumatism" is a will-o-the-wisp that has been blindly followed for centuries to conceal ignorance, carelessness or stupidity, and the same is true of the much abused term "growing pains." Every patient with persistent limp and pain (aside from acute trauma) should be examined naked and with the utmost care for the symptoms. Should the case prove in any instance to be one of rheumatism or trauma rather than tuberculosis no possible harm can result from the treatment by rest, fixation and general hygienic measures. Doubtful cases will never be injured by thorough treatment, while many tuberculous infections may be aborted.

DISCUSSION

Dr. Stewart L. McCurdy, Pittsburg: I agree with Dr. Willard on the question of rheumatism. This is a condition that the bone surgeon meets frequently. I would like to emphasize the statement made that local joint pain is seldom, if ever, we might say is never, rheumatism.

Dr. Edward Martin, Philadelphia: Rheumatism occupies the place in the profession that malaria used to. It has been my experience that nearly all local joint pain is rheumatism, especially in people who are over-fed and under-exercised; it disappears under light diet and general systemic treatment. However, when it comes to persistent pain, I agree with Dr. Willard, and one will usually find infection or beginning tuberculosis.

Dr. De Forest Willard, Philadelphia: Dr. Martin is speaking of one class of cases and I of another. I think his cases are gout and not rheumatism. Local joint pain, especially as it occurs in children, is never rheumatism, unless there are very positive signs which are clearly diagnosable.

Successful Experiences in the Immediate Operation for Ruptured Extrauterine Pregnancy

Dr. George Erety Shoemaker, Philadelphia: The whole situation has been unnecessarily obscured by a discussion which has arisen over the proper management of perhaps 5 per cent. of the cases. In all the others there can be, in my opinion, no discussion; the patients are better operated on at once to avoid either recurrent hemorrhage or chronic invalidism. A waiting policy ignores two important elements of uncertainty and danger. (a) chance of wrong diagnosis; (b) chance of renewed bleeding on reaction. Certain patients with tubal abortion with small hematocele would recover by absorption if let alone, but who can pick the cases? I have seen in my own practice and in consultation thirty-seven cases of ectopic gestation. While the number is not large it represents all the varieties of ectopic gestation, and it is a great satisfaction that operation was not regretted in any case and I am sure that some lives were saved by it.

DISCUSSION

Dr. George D. Nutt, Williamsport: I believe that we should operate on these patients early. My plan has been to do an immediate operation in all cases of extrauterine pregnancy or suspected extrauterine pregnancy, unless there is shock or something to contraindicate operation. When there is shock operation should be delayed until we can fill up the blood-vessels, which we usually can do while we are waiting for operation, by using salt solution. I think the waiting policy is a bad one.

Dr. J. C. DaCosta, Philadelphia: Extrauterine pregnancy occurs more frequently than we imagine. At first I did not recognize the condition. I believe in immediate operation as soon as the patient can be got into condition and prepared for operation.

Dr. G. W. Guthrie, Wilkes-Barre: To me the question is: Should we perform an immediate operation when the patient is in a condition of shock? I have found, in these cases, that by judicious care, waiting, salt solution (not given intravenously, however, but by rectum), that the patient will rally within a few hours, if the prostration is due to shock, and I wait until then.

Dr. John A. McGlinn, Philadelphia: It is impossible to lay down any hard and fast rule in regard to the operation in these cases, and the surgeon should use his judgment in regard to the case. However, in the vast majority of cases, except those in which there is extreme shock, immediate operation is the best.

Dr. Thomas C. Stellwagon, Pittsburg: I am an advocate of the delayed operation. The fact that patients almost invariably react before they get into the hands of the surgeon has saved many lives. Initial hemorrhage does not occur, as a rule, and recurrent hemorrhages do not occur under proper treatment. However, if the surgeon believes his patient is bleeding to death it is unsurgical to allow this and his duty is to open the abdomen.

Dr. C. F. Chandler, Philadelphia: It is a very bad practice to give salt solution for any length of time before an operation. I believe in giving it when one has tied up the arteries.

Dr. George M. Boyd, Philadelphia: It is hard to measure the degree of shock, and it is difficult to say how long we should wait for the reaction. Patients die from primary hemorrhage there is no doubt, and we cannot tell when they may die from a secondary hemorrhage. In the majority of cases we should go in promptly and get out as quickly as possible, do clean surgery, but not too elaborate.

Dr. George Erety Shoemaker, Philadelphia: I have never seen a case so bad that I could not operate by the time I had everything ready. In most cases by this time there will be some reaction. I know of two patients who died in their beds in the hospital waiting to get well.

SYMPOSIUM ON PYOSALPINX

The Causes, Symptoms and Differential Diagnosis of Pyosalpinx

Dr. M. Brooke Anspach, Philadelphia: The commonest cause of pyosalpinx is the gonococcus, although other bacteria also may produce suppurative inflammation of the tube. The pathologic changes in the pelvis associated with gonorrheal pyosalpinx are nearly all the result of the local peritonitis which accompanies its formation. Cystic degeneration of the ovary often occurs. A Graafian follicle may be secondarily infected with the ultimate formation of either an ovarian or a tubo-ovarian abscess. The pathologic changes caused by the streptococcus are more apt to affect the cellular tissue at the base of the broad ligaments or the ovary. The infection travels mainly through the lymphatics or the blood vessels. The symptoms of acute pyosalpinx closely resemble those of acute pelvic peritonitis, and the most important lesion from which it must be differentiated is appendicitis because in appendicitis early operation is indicated and in acute salpingitis operation should be postponed until the temperature has dropped to normal and the acuteness of the attack subsides. In distinguishing between appendicitis and acute gonorrheal pyosalpinx, examination should be made for evidences of gonococcus infection. The pain in pyosalpinx is usually near the midline, less confined to one side and lower than in appendicitis. A difference between the right and the left rectus muscle is not so often noted. The symptoms of nausea and vomiting are not nearly so marked and all symptoms subside more quickly under treatment. The symptoms of chronic pyosalpinx are the result of the pelvic peritonitis. From the resulting adhesions there are vesicle irritability, constipation, painful defecation, backache, pains referred to the limbs from pressure on the nerves which pass through the pelvis, profuse and painful menstruation, tympanites, and chronic diarrhea.

Conservative Treatment of Pyosalpinx

Dr. John W. Luther, Palmerton: The following reasons are offered for the conservative treatment of infections of the Fallopian tubes: 1. The patient is weakened by acute disease and less able to withstand operation. 2. An additional strain is thrown on the excretory organs by the anesthetic already overburdened by toxemia. 3. Organs which can and will return to the functionally normal are not sacrificed. Ovaries, which are being credited by physiologists with an internal secretion of value to the organism, may frequently be saved. 4. There is grave danger of infecting uninfected tissues by operating during the acute process. 5. The danger of inflicting injury on adjacent, adherent and important viscera is lessened. 6. There is a possibility of the abscess becoming sterile, when operation will be attended with but little danger. 7. The disease is largely self-limiting, rarely causing death when properly treated. Should operation be necessary only those structures which are irreparably diseased should be removed.

A Method of Implanting Ovarian Tissue in Order to Maintain Ovarian Function

Dr. William L. Estes, South Bethlehem: The operation I wish to advocate and the method I wish to describe is adapted to the cases of salpingitis and salpingo-oöphoritis, both of a catarrhal and suppurative kind, in which the whole of both tubes must be removed, and a portion, at least, of one or both ovaries must also be sacrificed. The operation is founded on physiologic principles and the experience gained in the preservation of small bits of ovarian stroma in suppurative and other diseases involving the whole of the tubes and part of the ovary. I am not sure that I can claim priority in the use of this special method. I can, however, positively assert, that I have never seen or read of any other operator using it. It has proved uniformly successful in my clinic in regard to the continuation of menstrual function, and in two patients of whom we know it has been followed by pregnancy. In my method the blood supply from the uterine anastomoses is never or very rarely cut off completely. Even if it is, the ovarian graft fitting directly into the walls of the very vascular uterus soon has an established blood supply which is quite adequate for even this organ which is accustomed to so rich a supply of blood.

Discussion on Pyosalpinx

Dr. B. F. Baer, Philadelphia: I can endorse what Dr. Estes has said, and a little experience I had forced me into conservatism. A woman came to me for the cure of sterility. I told her I could not cure the sterility, but would relieve the symptoms. I operated on her and found conditions such that I was going to remove the dead tissue and ligate on both sides, when I was deterred from so doing by her brother, who was a physician and was present. I did not ligate on the right side, but closed the abdominal wound and she recovered, and fifteen months afterward gave birth to a child. Many times since I have saved an ovary and tube which formerly I would have removed.

Dr. Francis P. Ball, Lock Haven: This matter has been brought to my attention in a medical and legal way, and I much regret the prevailing impression that pyosalpinx means a gonorrheal infection. This is true in many cases, but not always true, and we should teach our patients this fact. This idea causes a lot of trouble in a domestic and commercial sense.

Dr. Philip Marvel, Atlantic City, N. J.: It seems to me that conservatism may be carried too far in the matter of delayed operation and technic of operation in these cases, and I cannot see that it is justifiable.

Dr. George Erety Shoemaker, Philadelphia: If the gonococcus is present we assume a great many risks in being conservative. I have been disappointed in conservatism, that is, as to bringing freedom from trouble. Most people want to be well and stay well after going through one operation.

Dr. George W. Guthrie, Wilkes-Barre: I have made it a rule never to operate on a woman for appendicitis without making a vaginal examination. This can be done through the rectum if necessary. My experience has lead me to delay and to be conservative in operative cases of gonorrheal pyosalpinx, as sometimes these patients recover of themselves, and if they do not the chances for saving them are better if the operation is delayed.

Dr. George Erety Shoemaker, Philadelphia: I think that if we can demonstrate that the appendix is the primary offending organ we should operate at once, but if it is the tube we should, if possible, delay. I make an exception to this delay particularly in postpuerperal cases, and when a husband incurs an acute gonorrhea during a temporary absence and his wife becomes infected immediately after a miscarriage or a labor. These cases usually require immediate operation and drainage.

Dr. Ella N. Ritter, Williamsport: In postpuerperal cases I believe that occasionally medicinal treatment can be employed and is effective.

Dr. George D. Nutt, Williamsport: I think that the danger of operation in pyosalpinx is gradually lessened and the benefit increased if the vagina is drained, especially if there is pus in the cavity itself; then do a radical operation and remove such parts of the organ as is necessary to secure the future comfort and happiness of the patient. However, few patients seek help for any reason except for relief from pain and distress. They care little about any future action from these organs, and if we do not relieve them by operation they declare it is a failure. I have been conservative, but have taken into account the wants of the patient in regard to the operation. I think we must take our experience and work out our own plan of doing these operations in such a way as will insure the best results for the patients.

Dr. John M. Thorne, Pittsburg: I would like to mention the ideas of Dr. Simpson, who is not here, in regard to the time of operation. He treats the acute stage with rest, ice, etc., until the temperature and pulse are normal and most of the pain and tenderness have gone, and then in about a week if there is no reaction followed by fever and rapid pulse, increased pain and tenderness, he operates. If there is reaction he goes back to treatment. I think that an operation done in subacute or chronic stages is much safer than if done in the acute stage. That is what he means by delayed operation, and not waiting sixteen or eighteen months.

Dr. John W. Bruner, Bloomsburg: The cases that Dr. Shoemaker has spoken of are the most dangerous that we encounter, and I think they are the most dangerous for puncture. It is a question in my mind as to what is the best plan of treatment to pursue. If you operate on these patients early in this condition you have a mixed infection, which is rapidly absorbed through the puncture made in the vaginal wall, and very often the patient is reinfected and dies, and if you allow them to go they rupture and the patient dies.

Dr. Brooke M. Anspach, Philadelphia: These patients should not be operated on early. They should be given the benefit of expectant treatment. The universal rule is to keep patients waiting until the temperature falls to normal. The troublesome cases are those in which the temperature does not go down. In these cases, if there is a large tumor which can be easily drained by a simple vaginal incision, I think this should be done. If a radical operation is done the patient is very likely to die. Conservatism in these cases is often followed by failure, and it is advisable to put the question to the patients and let them decide whether they want the disease removed and then bear the consequences (tell them what they may be) or take the chance of submitting to another operation and still have the chance of possible pregnancy.

Two Cases of Traumatic Tetanus, One Ending in Recovery

Drs. R. Max Goepp and A. A. Eshner, Philadelphia: Of the two cases, the first was the usual type of case seen in hospital practice and terminated fatally at the end of a week. The patient was a colored man, adult, admitted with the statement that he had been suffering for two days with tetanic convulsions. The chief point of interest was that, although there was no history of any infection, no wound could be observed either on the cutaneous or mucous membrane and the man, who was quite conscious at first, remembered no injury that could have given entrance to the bacillus. The second patient was a boy of 8. Invasion was through an infected wound of the leg inflicted with a sharp stick from a stable-yard. The period of incubation was about twenty days. He was treated with tetanus antitoxin and spinal injections of 25 per cent. magnesium sulphate. The active period of disease was fourteen days, during which eleven injections of antitoxin (3,000 and 5,000 units) and twelve intraspinal injections of magnesium sulphate (2 c.c.) were given. The antitoxin was given subcutaneously and intravenously. Recovery ensued.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Thirty-fifth Annual Meeting, held at St. Louis, Oct. 12-14, 1909

(Continued from page 1592)

President's Address: Medical Education—Past, Present and Future

Dr. John A. Witherspoon, Nashville, Tenn.: This being the largest independent medical society in this country, it should go on record as standing for more than social and scientific work in its meetings and stand firmly for medical education in its highest sense of progress and wield its influence to bring about reform in medical teaching by insisting:

First, on every state within its territory having uniform medical laws.

Second, that none but men of culture and strictest integrity be placed on examining boards and that politics be kept out of all medical transactions.

Third, that colleges not having equipments to teach modern medicine should not be permitted to do so and that none should assume the responsibilities of teacher, who is not by training and natural talent especially fitted to impart and instruct others.

Fourth, that no college be recognized that does not insist on sufficient preliminary education and mind training to receive and digest modern medicine of every student as an entrance requirement, and a standard curriculum, in which full laboratory and clinical facilities will insure that none but good and well qualified men will be graduated.

Fifth, that all schools give prominence to the teaching of hygiene and sanitation departments, sadly neglected in the past, but in preventive medicine so necessary for the protection of people from infectious diseases, either endemic or epidemic.

Sixth, that we insist on the fact that colleges must have endowment, and that no philanthropy is more needed or deserved, and none will give greater returns both by insuring the people that none but competent men will belong to our profession, and financially, because they will enforce laws which will forever bar the entrance of epidemic scourges into the ports of this, the grandest and most glorious country that was created for the enjoyment of mankind.

Modern Surgery of the Digestive Tract

DR. JOHN B. DEAVER, Philadelphia: The two prevalent conditions of the stomach which may be considered grave menaces to the life and health of the patient are carcinoma and ulcer. It is out of the question that carcinoma anywhere can be considered as offering any opportunity for the display of medical agents, and we have gradually come to a realization that the same holds good of gastric ulcer. Our problems, as regards these grave and not infrequent conditions, are manifold. They may be summed up into several subdivisions, diagnosis, propriety and method of surgical intervention, and the results of surgery of the stomach. It is a lamentable fact that our diagnostic methods and results in diseases of the stomach have lagged far behind the improvements in surgical technic and pathologic experimentation. It is to the surgeon that credit must be given for showing that carcinoma of the stomach is generally recognized long before it has reached this final stage. The exploratory operation, so-called by its opponents, but more rightly considered an early operation on early symptoms, is responsible for this. In any person at or beyond middle age, grave dyspepsia with progressive loss of weight and strength, should be looked on with suspicion. Anorexia, especially that form which manifests itself in aversion to meat, should be enough to cause a careful study of the case. Often slight epigastric tenderness and a feeling of oppression after eating, even the lightest of foods, will be the first symptom to come to the patient's attention. In cancer of the stomach, excision, when possible, and gastroenterostomy when we can only hope to drain the stomach, offer us the only hopes of permanent cure or of temporary relief. The mortality of pylorectomy is low, that of gastroenterostomy almost nothing. The main difficulty, and one which seems most hard to overcome, is to bring patients to operation early enough. I do not say "operate for dyspepsia," but I do advise operation in permanent, grave dyspepsia in individuals of middle age, even when there is no apparent anatomic cause.

Gastroenterostomy as a cure for gastric ulcer now occupies an undisputed place. It must not always be recommended; in acutely bleeding ulcers it is worse than useless. Its initial mortality in benign conditions of the stomach is less than 3 per cent., in the hands of experienced operators, and its complications almost none. The end-results are good.

SYMPOSIUM ON EXOPHTHALMIC GOITER

Medical Treatment of Exophthalmic Goiter

DR. S. P. BEEBE, New York, detailed the results of serum treatment of this disease and said that in many respects it was very encouraging. He has seen the effects of surgery as practiced by a variety of surgeons. Men of limited experience should not operate on exophthalmic goiter; none but the most experienced surgeons should undertake this operation, which requires not only great judgment and skill in its execution, but in the preparation of the patient. No greater harm can be done than when a number of young surgeons take it for granted that this is the operation to do and say by all means let us do it right away. They should serve a long apprenticeship under surgeons before doing such a formidable operation.

Postoperative Results in Exophthalmic Goiter and Tumors

DR. GEORGE W. CRILE, Cleveland, Ohio: This brief report is based on a total of 278 operations on the thyroid gland. I have operated on fifteen malignant tumors. In thirteen, the diagnosis was either made or suspected. All of these patients died either as operative deaths or as recurrences. In two, one a sarcoma and one a carcinoma, malignancy was found in the routine pathologic examination and was not suspected clinically. My personal experience and the reports from a number of clinics lead me to conclude that cancer of the thyroid is at present rarely, if ever, diagnosed in its curable stage and the occasional cure is accidental. Among the benign tumors and plain goiters there was one fatality. In malignant tumors diagnosed clinically the postoperative results are as uniformly unsuccessful as they are successful in plain goiters and benign tumors. A study of my series of seventy-two operations for Graves disease, presenting, as they do, numerous and complex symptoms, and involving many organs as well as the most fundamental vital processes, impressed me with the great, almost unsurmountable difficulty or even the impossibility of compiling any statistical table that accurately represents the net clinical results. The longer the disease has existed, the greater the organic changes, and in consequence the more tardy the convalescence, and if the organic lesions have progressed to a certain degree the operative risk is greatly increased and the risk may become an operative impossibility. In these desperate cases, when operative recovery takes place, the convalescence will be correspondingly slow, and stormy and incomplete. The ship has gone on the rocks and it is the wreckage that we are dealing with. I have seen no patient with this disease who was not benefited by operation. The majority regard themselves as cured. Operated on successfully before organic changes of importance have occurred, and acknowledging all the difficulties and shortcomings, I know of few classes of cases in which is experienced such deep and fundamental relief as in acute toxic Graves' disease.

Primary Bilateral Ligation of the Upper Poles of the Thyroid for Exophthalmic Goiter

DR. J. H. JACOBSON, Toledo, Ohio, drew the following conclusions: 1. Ligation of both poles of the thyroid gland, acts first, by diminishing the blood supply to the gland and thus diminishing immediately its activity; secondly, by directly diminishing and preventing the gland secretion from entering the general circulation by way of the main lympathic channels, which leave the thyroid body at its upper poles; and thirdly, by causing a subsequent atrophy of the gland itself. 2. The operation of "pole ligation" is much easier to perform than ligation of the thyroid vessels, and may be as effective as a partial thyroidectomy. 3. It does not disturb the blood supply of the parathyroids, nor endanger the recurrent laryngeal nerves. 4. Theoretically, at least, and from the simplicity of its performances, it would seem that "pole ligation" should entirely supplant the operation of simple ligation of the thyroid vessels in this disease, and in many cases the necessity of partial thyroidectomy. 5. As a preliminary operation to partial thyroidectomy it will be found of great value. 6. At present we are warranted in saying that "pole ligation" offers the prospect of cure in many cases and of lasting improvement in others. 7. The operation of "pole ligation" is a safe one and in skilled hands should have no mortality.

Value of Thyroidectomy in the Treatment of Catatonic Dementia Præcox

DRS. ALLEN B. KANAVEL and LOUIS J. POLLOCK, Chicago: The paper summarizes the results obtained in operations on twelve patients with this disease, operated on at the Dunning Institution for the Insane. The cases were studied by Dr. Pollock and the patients submitted to operation. Dr. Kanavel reports his results as follows:

There was absolutely no result in any of the old cases. Of three patients operated on in the so-called favorable stage, two showed marked improvement lasting in one case for two months, and in the other for six months. The third showed no change at all. The two who showed temporary improvement relapsed at the end of the periods mentioned and are now in practically the same condition as before operation. The pathologic examination of the glands, did not show changes favoring the diagnosis of thyreotoxicosis, although the changes were compatible with it. Berkley still reports favorable results in his cases, but the results of the investigation in the present series cannot but lead one to a most conservative report concerning the value to be derived from the procedure.

Surgical Treatment of Exophthalmic Goiter

Dr. A. J. Ochsner, Chicago: Exophthalmic goiter becomes a surgical disease after it has been shown that internal treatment and treatment by serum are of no avail. When cases have advanced to the point of great interference with the function of the heart muscles and of the nervous system, then the results from surgical treatment are not promising.

Discussion on Exophthalmic Goiter

Dr. Herman Tuholske, St. Louis: The thyroid gland is an organ necessary to life. Without it trophic changes will be inaugurated of such a character as to result in the decay or death of the patient. This factor should be kept constantly in mind in considering the various phases of this subject. It is the experience of all surgeons that there are a number of patients with exophthalmic goiter who will recover with or without treatment, and while that number is small, still it becomes a factor in discussing the value of the remedies that have been used in the cure of this disease.

Dr. Arthur R. Elliott, Chicago: The tone of the papers read is preponderatingly surgical. This is in keeping with the present tendency which has initiated a movement strongly towards the assumption that this is a surgical affection, but perhaps not always in the interest of rational therapy. This is probably to an extent due to the fact that medical measures are unsatisfactory and unsuccessful in a certain proportion of inveterate cases of exophthalmic goiter. It is not to be forgotten, however, that the medical practitioner comes in contact frequently with many cases of thyroidism in various stages and degrees of intensity, many instances of which undergo a symptomatic cure, if we can speak of such a thing as curing this disease, and a large proportion of the patients improve under measures intelligently applied, such as rest, tonic treatment, dietetic therapy, etc. This is true not only of the milder and the chronic types of thyroidism, but of many instances of more acute Graves' disease, as those who practiced before the days of thyroid surgery can testify. Without directing any criticism against the surgical treatment, which in the hands of expert and experienced surgeons has amply justified itself by results, it is a fact that in the hands of the average surgeon the operation of partial thyroidectomy is attended by high mortality.

Dr. J. Henry Carstens, Detroit: The symptoms of this disease are very obscure, but there is one symptom I want to emphasize. Take a young woman who has repeated attacks of palpitation of the heart, without any particular cause, without any other symptoms, such as protrusion of the eyes, enlarged thyroid, etc., we should bear in mind constantly Graves' disease.

Sigmoid Diverticulitis

Dr. Daniel N. Eisendrath, Chicago: There have been many autopsy reports of peritonitis due to perforation of these diverticula, but their rôle in the production of definite clinical pictures was not known until a paper of Gräser in 1898. Diverticula of the sigmoid as a rule are acquired. They may occur anywhere in the large intestine, but are most common in the sigmoid, ending abruptly at the rectum. Unless they undergo secondary changes they do not give rise to any symptoms. Telling in 1908 collected 105 cases. Of these nearly one-half showed no clinical symptoms, but were found by accident at autopsy. Diverticula are most apt to occur in two rows at either side of the gut. They may, however, develop at the mesenteric attachment and occur between the layers of the mesentery. In some cases they are simply protrusions of the mucous membrane into the appendices epiploicæ, while in others they form definite pouches either oval or flask-shaped. One of the most important factors in the production of diverticula is muscular weakness incident to old age and the presence of considerable fat in the intestinal wall which favors a pushing out of the mucosa. The most frequent secondary pathologic changes are (a) infection of the general peritoneal cavity without perforation; (b) acute or gangrenous inflammation resembling the same pathologic form of appendicitis; (c) acute perforation or formation of an abscess, or general peritonitis. The preceding pathologic forms greatly resemble corresponding types of appendicitis. The other varieties not occurring in appendicitis are fistulas between the diverticula and the bladder or the bowel, and the development of a hyperplastic inflammation greatly resembling in appearance carcinoma. The latter form causes great thickening of the gut wall, so that its lumen is reduced to a minimum. The clinical cases can be divided into the acute and chronic forms. To the former belong the catarrhal gangrenes, with or without localized abscess formation, and perforative with general peritonitis. To the chronic belongs the chronic hyperplastic or stenosing form, the enterovesical fistulous form and the chronic adhesive form cause acute or chronic intestinal obstruction. The acute forms resemble the corresponding forms of appendicitis, except pain and tenderness, rigidity and tumor formation, when present, occurring in the left iliac region. The treatment of these does not differ much from the corresponding forms of acute appendicitis and, unless the case is recognized, recurrence is apt to take place. In one case diverticula were found filled with enteroliths during the operation for hernia, and in a second case general peritonitis was due to perforation of diverticula. No doubt many of the cases of the stenosing form or peridiverticulitis have been erroneously diagnosed as carcinoma of the sigmoid.

DISCUSSION

Dr. Ernst Jonas, St. Louis: A point of practical importance is that a condition of this kind is often mistaken for carcinoma of the sigmoid, and some patients with sigmoid diverticulitis have been operated on for carcinoma of the sigmoid. Dr. William J. Mayo has reported several cases in which he removed part of the sigmoid for a condition of this kind, believing at the time of the operation that he had to deal with carcinoma of the sigmoid, and only after careful pathologic examination of the specimen did he believe that it was a chronic inflammatory condition of the sigmoid due to diverticulitis. The weakness of the muscular walls, which is mentioned as an etiologic factor, must either be hereditary or acquired. Very little can be done for the patient in whom the weakness of the muscular walls of the sigmoid is hereditary, but in the acquired condition we have first hypertrophy, and later on dilatation and weakness of the muscular wall resulting whenever there is any obstruction further down. Adhesions around the sigmoid, which pull it out of place and interfere with the drainage, are the cause of diverticulitis. Another cause for diverticulitis may be a slight chronic ulceration in the particular place where diverticula are found.

Dr. J. Rilus Eastman, Indianapolis: I am reminded of two cases in which the abdomen was opened for what was obviously an acute generalized suppurative peritonitis, in which the symptoms were ascribed to the rupture of an inflamed appendix. Every one has opened the abdomen for these indications when there was no evidence whatever pointing to any infection arising in the upper abdomen, but every bit of evidence pointed to an infection arising from the lower zone of the abdomen. We have all cut down on the appendix and found suppurative peritonitis with the escape of a thin fluid filled with flocculi, followed by a thick, creamy pus. We have examined the appendix and found it practically normal. We have removed the appendix, not knowing what else to do with it, and we have either irrigated or left the abdomen dry and put in a large tubular drain. In a recent case of this general character I found that the adhesions in the intestines were on the left side, and while it would be absurd for me to say in the presence of such meager evidence that I had to deal with a condition like that described by Dr. Eisendrath, still I submit that in the future I shall be very cautious and shall be on the lookout for infections arising from these diverticula in the sigmoid, because I am reasonably sure that the sigmoid diverticulitis, followed by a rupture, has given rise to more cases of general suppurative peritonitis than we have imagined, and if we are to consider adhesions in the future we will not only look to the right side of the abdomen for the cause of this suppuration, but also occasionally to the left side.

Dr. Edwin Walker, Evansville: I am satisfied that I operated last week in such a case as Dr. Eisendrath has described.

There was an abscess on the left side, exactly like an appendiceal abscess. I am reminded of a case which was diagnosed as carcinoma of the sigmoid flexure, and the post-mortem findings were precisely like those he described. It was thought at the time that the trouble was inflammatory, but I thought there was perforation and inflammatory trouble. This case occurred twelve years ago, and in the light of what has been said to-day it was without doubt a case of sigmoid diverticulitis.

DR. C. W. BARRETT, Chicago: It is likely that in many cases constipation causes the dilatation and that it results in overdistention of the abdomen, causing separation of the muscle fibers, and this furnishes opportunity for the mucous membrane to herniate between the weakened muscle fibers. In an acquired condition of this kind we should do away with any cause for overdistention; but instead of being able to do nothing in the congenital condition, it is all the more important that these conditions be looked after. Another practical point is that we have been inclined to deal with enlarged and inflamed appendices epiploicæ as though it were merely a question of having to control hemorrhage. We may not only have to deal with hemorrhage, but with the communication of the bowel, the same as in dealing with the appendix. Recently, in dealing with a pus tube, I felt it was desirable to cut off several of these appendices epiploicæ and deal with them as I would with hemorrhage.

DR. R. E. WILSON, St. Louis: I differ from Dr. Eisendrath and others in reference to acquired diverticulitis. I still cling to the old theory that all cases of diverticula of the sigmoid are congenital and that we must go back to the embryologic formation in the primitive hindgut from which the sigmoid is developed and look there. I do not believe the conditions mentioned cause diverticula of the sigmoid, but that a weakened condition in the gut is the sole cause.

DR. R. H. BARNES, St. Louis: I believe diverticula of the sigmoid, as well as of other parts of the bowel, are more common than most physicians or surgeons believe. These diverticula do not always cause trouble and may only be recognized post-mortem. I believe the majority of cases of diverticula are congenital. There is a localized weakness of the muscular wall of the bowel which forms them, and these become infected through the fecal matter or from some other cause and then we may have the symptoms of diverticulitis. The majority of cases are not recognized from the clinical symptoms and for that reason are overlooked.

The Advantage of Pfannenstiel's Incision

DR. H. O. WALKER, Detroit: The fibers of most of the abdominal muscles run either diagonally or transversely; the rectal muscles are exceptions. The principal blood-vessels supplying the abdominal region are the two superior and inferior epigastrics and their branches. These all run, in a general way, parallel to the recti muscles. It is never necessary to cut more than the two inferior epigastrics, and even this is not always required. The nerves supplying the abdominal region also run, in a general way, parallel to the muscle fibers. The prevention of hernia can no doubt be aided by incisions in line with the muscle fibers. It is more necessary to respect nerve fibers in incisions than blood-vessels, generally speaking. The cosmetic advantages of cross cuts are very apparent. Pfannenstiel's cross incision fulfils all of the above requirements. Thirty-eight patients have been operated on by this incision through which practically all possible pelvic operations have been carried out.

DR. GEORGE GELLHORN, St. Louis: Advantages of the Pfannenstiel incision are becoming more and more appreciated in America. It has many advantages over the longitudinal incision. I have used this incision for a number of years and have not yet seen a case of hernia, although in four cases I had disturbances of wound healing. There is, however, a limitation to the use of this transverse incision, in that the larger tumors, which extend about half-way to the umbilicus, are not so easily removed through this incision as they are through the longitudinal incision, but outside of that fact the advantages are all in favor of this transverse incision.

DR. H. O. WALKER: We can remove very large tumors through this Pfannenstiel incision and we can go still further with this incision in that we can reach the stomach, pancreas, and gall-bladder, and do any surgical work which may be necessary on any of these organs. It is an incision that has a great many advantages over the longitudinal incision in many operations in the pelvis.

Sarcoma of the Prostate

DR. JOSEPH RILUS EASTMAN, Indianapolis: Of malignant neoplasms of the prostate, carcinoma is the most common, although, as Barth stated years ago, sarcoma of the prostate is doubtless less rare than has been imagined, and owing to the circumstance that until recently very little, if any, distinction was made between carcinoma and sarcoma, there has been, perhaps, some misconception on this point. That malignant disease of the prostate is much more common than has been appreciated heretofore may be inferred from the experience of such careful observers as Hugh Young, who in 500 cases of prostatic enlargement found 100 cases of carcinoma, or one case of carcinoma to every four of prostatic hypertrophy, and although there have been reported less than thirty cases of sarcoma of the prostate of primary origin in the gland, which have been satisfactorily proved to be sarcomata, no doubt in view of the general indifference as to microscopic examination many cases of sarcoma of the prostate have been carelessly called carcinoma or even tuberculosis. The case which I report is one of spindle-celled sarcoma of the prostate occurring in a man of 27, and apparently running a course covering five years and having many characteristics in common with tuberculosis. On microscopic examination, the masses of tissue at the base of the villi removed by the curette were found to be infiltrated and degenerated, showing a preponderance of embryonic connective tissue cells with a relatively small amount of mucoid intercellular substance. The tissue removed from within the capsule of the prostate was made up of the same spindle-shaped connective tissue cellular elements.

(To be continued)

UTAH STATE MEDICAL ASSOCIATION

Fifteenth Annual Meeting, held at Ogden, Sept. 21-22, 1909

The President, DR. EZRA C. RICH, Ogden, in the Chair

Preventive Medicine

DR. E. V. SILVER, Salt Lake City: The medicine of the future will be largely preventive. The future victories of medical science must be the victories of preventive medicine. Human life has been compared to the burning of a candle, and the extinction of life at the end of its natural cycle can scarcely be regretted. But lives cut off before they are scarce begun entails a needless loss to the community. In the past, millions of lives were annually lost through plagues, pestilences and diseases which to-day are easily controlled and prevented. The cure of disease was variously attempted in the remotest ages, but the prevention of disease is strictly a modern phenomenon. In 1798 Jenner suggested and proved the efficacy of vaccination in smallpox. Hardly a century later Pasteur established the germ theory of fermentation. The discoveries of Pasteur and Koch, together with the work in antisepsis by Lister, brought about a revolution in medicine. The great triumph of the nineteenth century is the discovery of the causative agents of infectious diseases. Prevention will prevent preventable diseases, but other curable diseases must be recognized in the curable stage. Society to-day is divided into three great classes: the perfectly healthy, the apparently healthy, and the unhealthy. Only a small percentage of our population belongs to the first class; very few are willing to be classed in the third class; those who belong to the second class are legion. People in this class must be advised to submit to medical examination periodically, in order that pathologic conditions may be recognized as early as possible. A curable disease must be diagnosed in its incipiency. The test-breakfast will demonstrate the presence of malignant disease long before a tumor can be felt and early enough for an operation to be of benefit. We have no insight into the causes and

turbed areas. Vomiting occurs early and is copious and severe; at first, gastric contents, bile, greenish or brownish material from the duodenum and jejunum; finally stercoraceous fluid appears. An important diagnostic feature is collapse, and when it occurs death may be expected. Constipation is generally present and is caused by mechanical occlusion or by paresis of the intestinal wall below the ileus. Meteorism develops gradually in passive chronic strangulation; in stenosis it occurs rapidly and is associated with the peristaltic waves.

Strangulation by bands occurs most commonly in young males. The associated pain is sudden, violent, agonizing and remittent in the umbilical or epigastric region. Tenderness is not localized, there is no tumor, meteorism occurs late, vomiting occurs early, vomiting is uncontrollable and rapidly becomes stercoraceous with total constipation, shock profound, with subnormal or lower temperature till sepsis occurs. Untreated the duration is from three to seven days.

Volvulus of sigmoid, commonly in men or advanced life, occurs with a history of constipation, onset milder than strangulation, pain less severe, paroxysmal, and in the hypogastric or iliac region. Vomiting is late, temperature normal or slightly elevated, shock slight, and the bowels may act at the onset of symptoms. Duration is from six to fourteen days.

Intussusception is more common in infants and young children, and there is generally some previous intestinal disorder, onset instantaneous or gradual, pain severe and intermittent, tumor present and characteristic early diarrhea, with discharge of blood and mucus. Vomiting is inconstant and shock varies from slight depression to profound collapse. Duration varies from a few hours to ten days.

Paralytic obstruction is characterized by its gradual onset after inflammation within the peritoneum, pain less severe than in other forms and diffuse over the abdomen, tenderness is general, vomiting is early and frequent. Constipation is marked, although gas may pass through the rectal tube. General condition is bad, with often high fever. Condition lasts from one to three days.

Obstruction of the bowel must be differentiated from perforation of the stomach or intestines, which was characterized by localized tenderness, muscular rigidity, distention, early disappearance of liver dulness and vomiting at the time that perforation occurs, after which it may cease. Feces and gas may be passed till the peritoneum is hopelessly inflamed.

Perforative or gangrenous appendicitis is distinguished from ileus by localized tenderness, muscular rigidity, fever reaching 101 within twenty-four hours.

Embolism or thrombosis of the mesenteric artery is generally a very rapid process, accompanied by terrific pain, beginning in the lumbar region and becoming general; patient is exceedingly restless and there is rapid accumulation of fluid within the peritoneal cavity.

Obstruction of the bowel must also be distinguished from the symptoms of biliary and renal colic, gastroenteritis and colitis, primary portal thrombosis, external hernia, acute hemorrhagic pancreatitis, distortion of the mesentery, pneumonia with marked pleural pain and, finally, the gastric crises of tabes. The treatment of ileus is essentially surgical and should be instituted with promptness, for an efficient, thoughtful diagnosis surgical eagerness is no substitute.

DISCUSSION

DR. A. A. KERR, Salt Lake City: Dr. Kirtley did not mention the presence of Meckel's diverticulum as one of the causes of intestinal obstruction. Two cases of this kind have occurred in my practice: in one case the diverticulum was two inches in length and actively inflamed. The case was far advanced when first seen and death resulted from general peritonitis. The most common type appears to be caused by chronic adhesions from localized peritonitis or appendicitis. The presence of occult blood in the feces or in the stomach contents often leads one directly to a diagnosis that would otherwise be made with difficulty. The routine work of the laboratory, the examination of the blood for the percentage of hemoglobin or the presence of a leucocytosis, and the examination of the urine and feces are always valuable aids in making a diagnosis and should not be neglected.

DR. J. S. RICHARDS, Salt Lake City: I recall a case of ileus that originated with the symptoms of an ordinary intestinal indigestion extending over a period of two or three weeks. When the characteristic signs of ileus developed the patient was sent to the hospital, as it was decided that an operation was indicated. The mesentery was very much distended and highly inflamed. At the autopsy a large abscess was found involving five or six inches of the mesentery, which had broken into the lesser peritoneal cavity. Four or five feet of the duodenum were gangrenous. In this case there was no fecal vomiting and the ileus developed gradually. In a similar case fifteen or twenty abscesses were found, varying in size from that of a hazel nut to that of a hen's egg. In postoperative cases of dilated stomach there is a close similarity to intestinal obstruction; it is often difficult to distinguish between them. The free use of the stomach tube will often relieve these cases of acute dilatation of the stomach very promptly.

DR. R. S. JOYCE, Ogden: It is not so much a matter of whether we are dealing with gangrene of the omentum, volvulus, intussusception, or other pathologic states as it is a question of whether we are dealing with complete obstruction of the bowel or not. If these cases go on for three or four days without surgical relief then operative procedures are useless. Intestinal obstruction must be recognized early. In some cases there may be very little pain, yet obstruction may be complete. In intussusception the condition may often be felt through the rectum.

DR. J. W. AIRD, Provo: I believe that the majority of cases of intestinal obstruction are due to intussusception. Secondly, bands of adhesions, the result of previous inflammations, form a common cause. I have seen a diagnosis of hernia made in a case of intestinal obstruction, and the true condition not recognized until the patient was ready for operation. The repeated reduction of a hernia by taxis is sufficient to cause enough traumatism in some cases to set up an inflammatory action with the formation of adhesions, and thus give rise to intestinal obstruction.

DR. A. J. HOSMER, Salt Lake City: I am disposed to think that we do not always go into the history of these cases as thoroughly as should be done. The history of the onset and development of intestinal obstruction should be thoroughly investigated. This is often the weak point in our examination and the reason why so many cases go unrecognized and pass beyond the stage where surgical treatment would otherwise effect a cure.

DR. H. P. KIRTLEY, Salt Lake City: Acute dilatation of the stomach should have been mentioned in the differential diagnosis. Its omission was an oversight. It is a condition that does not necessarily follow operations, as it occurs after typhoid, pneumonia, debilitating conditions, etc., and appears to be of nervous origin. Dr. Richards assures me that the free use of the stomach tube is very useful in relieving this condition.

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KENTUCKY STATE MEDICAL ASSOCIATION

Fifty-fourth Annual Session, held at Louisville, Oct. 19-21, 1909

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Proceedings of the House of Delegates

The reports presented by district councilors and by delegates of their respective county societies were very encouraging, as they showed that the spirit of organization of the profession throughout the state has gathered a momentum that cannot be checked.

The House of Delegates, by resolution, condemned the use of food preservatives, such as benzoic, boric, and salicylic acids, and their compounds. Such preservatives are not only unnecessary, but are detrimental and dangerous to the public health. The House went on record as being unalterably opposed to the adulteration of food of any kind whatever, as well as to any chemical preservative of food. The position taken by the American Medical Association in its fight against prevention of organic diseases of advancing life. A large majority of people in this apparently healthy class are in middle life. Experience serves but to emphasize the disastrous result of overstrain, whether mental or physical. Too strenuous a life reacts on the whole organism with inevitable autointoxication—gastrointestinal, muscular, articular and cerebral. Hence come cancer, dyspepsia, muscle pain, gout, migraine, diseases of the kidneys, heart and arteries. A hopeful sign of the times is the interest taken by the public in prevention and sanitation. Until recently men measured the value of the medical art by its ability to cure a cold and other trifling ailments, unconscious of the many perils which preventive medicine had removed from his path. The medical profession is largely responsible for the lack of interest in the declining death rate and the increase in the expectancy of life, the means of preserving and preventing disease. The daily press and magazines teem with medical matters of interest to the reading public, and these popularized medical topics are eagerly read by the observing. The success of preventive medicine depends on the support and cooperation of the public. It is better to prevent the pollution of our houses, our food, our vehicles, and our streets by tuberculosis than to spend millions of dollars on treatment. It is better to spend a hundred million dollars and rid our country of anopheles and stegomyia than to see business wither at flood-tide under the blighting grip of yellow fever, and thousands perish from pest and malaria. It is better to prevent the pollution by sewage of a stream supplying a great city than to fight that pollution in the bodies of ten thousand innocent victims of typhoid. Preventive medicine is the medicine of the future and the final triumph of scientific medicine will be the suppression of diseases. In this struggle with the causes of disease we need not only the earnest and united support of the medical profession but the encouragement and financial aid of governments generally, state, city and village. Every dollar spent on sanitation brings returns. Nothing would be of more far-reaching benefit to the laboring man than to teach him how to avoid disease and preserve his health. All great reforms must have a beginning in the household. If we can interest our government and people, our educators and the public press in this great movement of abolishing disease by prevention, we may expect the millenium to come in due time.

Hemorrhage and Transfusion

DR. E. F. ROOT, Salt Lake City: The medical profession is greatly indebted to Crile of the Western Reserve University, and Carrel of the Rockefeller Institute, for most of the newer knowledge and technic on the subject of hemorrhage and transfusion. Through practical experiments on animals we are in possession of facts that explode former theories. The result of these experiments goes to prove the inadequacy of the means we have been most inclined to reply upon. Saline infusion accomplishes most when given early after hemorrhage, and given slowly. It should be absorbed from the tissues and not thrown directly into the circulation through a vein. If a larger amount is given than can be easily carried in the vessels, to an amount increasing the normal amount of circulating fluid, it will leak out into the tissue and can only be eliminated when the vessels have been somewhat unloaded. Rapidly filling the veins is liable to cause acute dilatation of the heart—in cases of extreme exhaustion either from hemorrhage or shock, death is often hastened in this way. Saline infusion is at best only of temporary benefit and should be given guardedly, and as soon after the hemorrhage as possible. Bandaging the limbs and lower part of the body has a beneficial effect in bringing up the blood pressure. The heart, under most circumstances, will work if it has anything to work with and needs blood or other suitable fluid rather than drugs, and the nearer we can get to the normal circulating fluid the nearer we approach ideal conditions. Transfusion of blood from one person to another is a very old idea, but was not successfully performed until recently. The proper technic for this operation requires that the intima of one vessel be joined to that of another, allowing the blood to flow across without causing any change in it. Up to the present time the history of transfusion is a record of failures. In the human species the blood should be obtained from a person as nearly related as possible, for it has been proved that similar blood mixes perfectly and causes no hemolysis. In simple anemia, when there is a lack of blood only, when the hemoglobin is low, but the blood not vitiated; or in cases of acute anemia from hemorrhage, transfusion gives immediate and permanent relief. In cases of severe and frequent bleeding from ulcerated surfaces, as from the bowel, transfusion may not only temporarily relieve the anemia but may arrest further bleeding by sufficiently nourishing the starved tissues. There is a vast difference between the temporary effect of saline infusion and transfusion of the whole blood. The latter is permanent in effect. Saline infusion often tides the patient over until the vital forces can rally, but it is rapidly eliminated, both in the natural way and into the tissues, and if given in excessive amount may do material harm. Care is necessary not to overdistend the heart by allowing the stream to flow too rapidly; from thirty to fifty minutes is required for the average transfusion. Acute dilatation is announced by dyspnea, distress or pain in the precordial region, cough and cyanosis. The second great danger is hemolysis, either direct or reverse, to guard against which blood of a similar quality should be used. Following transfusion, a chill of more or less severity occurs, just as after a saline infusion. There is also a slight rise of temperature. In tuberculosis, transfusion gives more than temporary relief. Before operation in chronic suppuration, transfusion may cause marked increase in the vitality. Transfusion is valuable in uncomplicated shock, as anemia plays an important rôle in the cause of death from shock. Transfusion is the ideal treatment for acute uncomplicated hemorrhages.

DISCUSSION

DR. RALPH T. RICHARDS, Salt Lake City: I had an opportunity of visiting Dr. Crile's laboratory. The description of the technic of transfusion, given by Dr. Root, is especially clear. I have had only one opportunity of trying this personally. There are a few points to be observed if one expects success. In a case of purpura, a boy was rapidly bleeding to death. The uncle volunteered as donor. Two operators worked on the arm of the donor, and two on the arm of the patient, independently, isolating the vessels to save time. We made one mistake in the anastomosis. We did not get enough of the adventitia out of the way. After inserting the vein through the canula we had a smaller flow than desired. Crile takes as much as one-half an inch of the adventitita out of the way. In Johns Hopkins Hospital, when some of the earlier experiments were being made in transfusion they infused a patient with pernicious anemia. The anemia patient did well, while the donor collapsed, requiring saline infusion for stimulation. The donor should be carefully watched to prevent accidents. In Mount Sinai Hospital a modified Crile's tube is being used. The same general plan is adopted, except that a small handle, two inches in length, is attached. The tube has a small slit down one side, so that a suture attached to the end of the vessel can be brought through the slit and the vessel pulled through. We should try these procedures on live or dead animals for the knowledge to be gained, and the chances for success in actual practice would be greater.

DR. E. F. ROOT: The important thing is attention to the details of technic. If the operation is undertaken at all, it should be done perfectly, so that no ill effects may follow. The one point that needs emphasis is that many of us have been using saline solution without regard to the amount of the solution put into the tissues, the idea being to introduce as much as possible and let it go at that. Not a few patients have died or suffered from acute dilatation of the heart, or in some other way have suffered, from this indiscriminate use of saline transfusion. While it is a good thing for temporary relief in many cases, some patients must have fresh red blood if any benefit is expected.

Differential Diagnosis of Intestinal Obstruction

DR. H. P. KIRTLEY, Salt Lake City: The most common causes of ileus are volvulus, intussusception, paralytic obstruction, compression, obturation and structural alterations. Pain is generally present and cramping or colicky in character. The site of the most acute discomfort is usually in the umbilical region at first, eventually centralizing itself about the disturbed areas. Vomiting occurs early and is copious and severe; at first, gastric contents, bile, greenish or brownish material from the duodenum and jejunum; finally stercoraceous fluid appears. An important diagnostic feature is collapse, and when it occurs death may be expected. Constipation is generally present and is caused by mechanical occlusion or by paresis of the intestinal wall below the ileus. Meteorism develops gradually in passive chronic strangulation; in stenosis it occurs rapidly and is associated with the peristaltic waves.

Strangulation by bands occurs most commonly in young males. The associated pain is sudden, violent, agonizing and remittent in the umbilical or epigastric region. Tenderness is not localized, there is no tumor, meteorism occurs late, vomiting occurs early, vomiting is uncontrollable and rapidly becomes stercoraceous with total constipation, shock profound, with subnormal or lower temperature till sepsis occurs. Untreated the duration is from three to seven days.

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The House of Delegates, by resolution, condemned the use of food preservatives, such as benzoic, boric, and salicylic acids, and their compounds. Such preservatives are not only unnecessary, but are detrimental and dangerous to the public health. The House went on record as being unalterably opposed to the adulteration of food of any kind whatever, as well as to any chemical preservative of food. The position taken by the American Medical Association in its fight against food adulteration was endorsed, and also its action in appealing to Congress for such immediate amendments of the national Food and Drugs Act as may be necessary to attain the above necessary ends.

The House heartily endorsed and earnestly supported the American Medical Association, its officers and editor, its councils, and The Journal, in their attitude toward the nostrum evil and their fight for honesty and purity in foods and drugs; also in their great service in the promotion of higher standards of medical education and their splendid achievements in extending the power and usefulness of medical organization.

The House recommended the adoption of the Michigan plan of simple refraction for general practitioners, although there was a spirited debate pro and con on the subject.

The Committee on Antituberculosis Campaign recommended that the Association inaugurate and earnestly enter on a campaign of education, prevention and treatment of tuberculosis.

The House endorsed a bill proposed to exempt the professional confidences between physician and patient from disclosure on the witness stand without the consent of the patient. A bill endorsed by the State Pharmaceutical Association governing the sale of opiates was also endorsed and the Committee on Legislation and Public Policy was advised to lend its support in securing the passage of said bill.

The House adopted the report of the Committee on Contract Practice to the effect that no member of the association shall accept the position of club, society, lodge or organization physician, at a less rate than the regular or customary charges for like services rendered by other physicians for patients not members of such club, society, lodge, or organization, and any violation of this by-law shall be considered unprofessional conduct and render the member guilty thereof liable to suspension or expulsion from the association.

The House favored a state board of registration for nurses, to consist of six members, three physicians and three nurses, who may be superintendents of training schools for nurses.

The Committee on Public Health and Sanitation recommended that members urge on the friends of public health and sanitation, physicians, health officers, teachers, and the press, to continue the campaign of education already begun by holding public meetings in the different counties, inviting the people, and especially the teachers to continue these meetings.

The special Committe on Criminal Abortion presented a resolution, which was unanimously endorsed by the House, that every member should educate his community to a higher standard of belief and conduct with regard to the frightful prevalence of criminal abortion; that every county medical society should secure evidence against all persons suspected of producing criminal abortion in its jurisdiction, and presenting the same to the proper tribunal, and that the Association, through the appropriate committee, shall introduce into the next General Assembly a bill, the aim of which shall be the suppression of this crime and the punishment of the guilty.

The Committee on Medical Education was changed to the Committee on Medical Council. This committee recommended and endorsed a high standard of medical education, both preliminary and medical.

A special committee of five was appointed to draft and prepare a bill to deal more effectually with the social evil problem in Kentucky.

A Practical Talk on the Diagnosis of Mental Diseases

Dr. E. M. Wiley, Lexington: To determine the question of mental soundness, a definite routine should be employed. First the history, present and past, both of the patient and family; the personal previous history of the disease; a detailed inquiry into the habits, traits, and physical illnesses of all the members and the patient's immediate family, and direct branches. Special attention should be given to mental peculiarities, alcohol and drug addiction, and criminal tendencies. The etiologic importance of heredity should not be overlooked. Dementia is a disease of slow progress, characterized by progressive deterioration, loss of voluntary activity, aural hallucinations and indefinite expansive delusions, despondency, sudden development of excitement, distractability of attention, persistent ideas, verbigeration, periods of pressure of activity, followed suddenly by conditions of inactivity, stupor, mutism, and catalepsy. In the paranoid form, dementia is characterized by numerous hallucinations and fantastic delusions, progressive paralysis of thought and will, emotional deterioration and impairment of memory. The insanities of old age are characterized by a progressive mental deterioration due to structural changes in the higher brain center secondary to vascular degenerations, making good the truism that "man is as old as his arteries." The insanities of this period are chiefly embraced under the term senile dementia. Mental loss is not followed by delirium, confusion and stupor, change of disposition, memory loss, expansive ideas, disorientation, motor unrest, loquacity, erotic tendencies, insomnia and deep depression. I make an earnest appeal to our medical teachers to see that no young man receives the degree of Doctor of Medicine who has not had clinical instruction in psychiatry. Especially should he be so instructed that he will be able to recognize the border-line cases. The world is full of Guiteaus, Czolgoszs, Prendergasts, and Thaws. They are in our midst committing crimes of every character. How are we to be protected? Nothing in the past has been done. Our only hope is in the coming generation of educated, trained young physicians, who, it is to be hoped, will take up the great social problem of asexualization, which has been so successfully begun in Indiana. It has long been my idea that state asylums should be utilized for clinical teaching. We have in the shadow of Louisville a large state hospital filled with patients with every phase of mental disease which, if proper steps were taken, could be utilized.

DISCUSSION

Dr. W. F. Boggess, Louisville: In the care of the insane we have evoluted from the day when mad men were treated as such and confined with chains and staples, fed through holes in doors, to the present time, when the insane are treated as sick people. No mechanical restraint is used, and yet the fact remains that in the percentage of cures there has not been a very marked improvement. The reason for that is due to the fact that the family physician does not recognize the mental disease in its early stages, and when these people are finally committed to institutions or to specialists there is already brought about such destruction that it is impossible to do anything for these patients. The families themselves do not want to believe that they have to deal with mental cases. The family physician seeks to cater to their views, and the result is these patients are kept at home until it is too late for anything to be done when they are finally committed to a private or public institution.

Dr. George P. Sprague, Lexington: This subject should interest every physician and every citizen of the state. Insanity is on a steady increase in this state, so that we have in Kentucky one insane person to every 300 of our inhabitants; dementia præcox is unusually prevalent. We ought to have a means of early diagnosis in insanity, not only for the sake of the individual who may be treated early and cured, but for the sake of the state, for every chronic insane person is estimated to cost the state about $6,000 during the asylum treatment.

Dr. J. G. Carpenter, Stanford: The general practitioner should be an all-around specialist. Every year I see patients who have mental aberrations, and if proper treatment is instituted in time they will be restored to health and be allowed to remain at home. The whole profession should wake up. We should treat these patients at home early, and then the alienist will not have a chance to cure them.

Dr. Curran Pope, Louisville: Early diagnosis in mental disease means early treatment, and early treatment frequently means cure. As soon as the diagnosis of any phase, form of character of mental trouble is made, the word hoplessness is immediately written over the case, and no attempt is made to realize that the many phases and forms of mental disease are nothing more than an expression of a disordered condition of the cerebrum, just as we would recognize a disordered condition in the liver. We certainly do not stop work the moment we recognize any disorder in any other organ save that of the highest organ of mankind—the brain. It is in the borderline cases that the greatest mistakes are made and the greatest harm is done. The general practitioner should recognize these cases in the early stages, and should send these patients where they can receive the latest and best psychiatric treatment. I do not believe the blame for a failure to cure many of these patients should be laid at the door of the poor general practitioner, but a good deal of it lies with our legislative bodies and the people of the state of Kentucky. There is absolutely no asylum or hospital in the state of Kentucky under the care of the state. We have nothing but jailers to recognize the condition, and not physicians, who are applying modern treatment.

Treatment of Mutilated Extremities

Dr. R. C. McChord, Lebanon: More systematic conservative surgery should be practiced in treating mutilated extremities, and no primary amputation should be done where there is circulation in the distal extremity. The organized blood clot should be more often utilized when there is loss of the soft tissues.

DISCUSSION

Dr. W. E. Senour, Bellevue: I recall a case that came into our hospital only a short time ago when five surgeons were present, four of whom recommended amputation. The other favored giving the patient more time. Three days elapsed, the condition of that extremity improved, and the patient's entire hand was saved, much to the credit of the one surgeon who pleaded so earnestly and so strongly to save it.

Dr. J. G. Carpenter, Stanford: The use of the blood clot is of the utmost importance in the treatment of compound and comminuted fractures. If the periosteum is destroyed and the ends of the bones are not kept moist by an aseptic blood clot or by antiseptic irrigation, the bones will necrose, so that the blood clot is of great importance.

Delirium Tremens

Dr. F. M. Stites, Hopkinsville: Delirium tremens is a manifestation of chronic alcoholism. The pathology is the same as that of chronic alcoholism or what is frequently called wet brain. The symptoms are unmistakable. In treating these patients alcohol should be withdrawn. They should be nourished, and intelligent restraint practiced. Heart stimulants and sedatives should be used with moderation.

A Plea for the Surgery of Our Small Hospitals

Dr. J. L. Phythian, Newport, delivered the address in surgery, and, among other things, said:

Modern medicine has imposed on us to-day duties that were unknown twenty years ago. The science of medicine has already attained a high degree of perfection, and its accurate application is daily becoming more exacting. The patient's interest is the sole thing we have to consider; then it becomes our duty to see that he has the best advice and skill available, and that he be placed in those surroundings which will be most conducive to his welfare and recovery. That the small hospital is invaluable to the community in which it is located no one can deny, and no community can do a nobler charity than the support of such an institution. The extraordinary reward that surgery holds out is a temptation to the unscrupulous or morally weak surgeon who is apt to confuse his financial interests with the physical necessities of his patient. There is a wide difference between the fee of the surgeon and that of the general practitioner, the surgeon may be easily biased in favor of the method that promises the larger reward in any case furnishing a meager excuse for resorting to the operating table. I desire to make a plea that something be done to uphold the high standard which surgery has attained—a plea for the profession, the people and the deserving poor who enter our institutions and must accept the service given them. The proper fitting of a man for surgical practice requires a much longer experience as a student and assistant than the most exacting medical school demands. A man should serve four or five or six years as an assistant to an active surgeon. During this period of preparation, as it were, as much time as possible should be given to observing the work of the masters throughout the world. Much may be done to suppress the evil of operating by inexperienced, incompetent men, by using greater care in the selection of staff surgeons in the small hospitals. If it were possible for the medical profession to-day to establish a higher degree of moral responsibility many of these evils might be averted. We need an active conscience in surgery and the application of the old but ever practical golden rule.

Tonsils and Adenoids

Dr. S. G. Dabney, Louisville: There are two classes of abnormal tonsils: first, the simple hypertrophied, with symptoms of obstruction and reflex irritation; second, diseased hypertrophic or atrophic tonsils, causing local or general infection, or both. General or distant diseases are believed to enter through the tonsils. In the modern treatment of diseased tonsils and adenoids the tendency is toward radicalism in their hemoval.

As to adenoids the description of Meyer is almost as complete to-day as it ever was, except that adenoids are regarded as a possible port of entry for general diseases, and should be removed.

The Pupils During Health and Disease

Dr. Adolph O. Pfingst, Louisville: Some uncertainty exists as to what should be considered a normal pupil or one indicative of general disease. Fallacies to be guarded against in the examination of pupils are the age of the patient; inequality of light, entering the two pupils; difference in refraction in the two eyes, or defective vision in one eye; the possible use of some drug influencing the size and local diseased conditions, such as synechia, causing immobility of the pupils. From a diagnostic standpoint, the pupils are examined for their size, their reaction to direct light, their consensual reaction and for their reaction to accommodation and convergence. Pupils frequently do not react to light, though perception to light is present, and, on the other hand, pupillary reaction may persist in eyes without light perception. In the Argyll-Robertson pupil reaction to accommodation and convergence remains after reaction to light has ceased. The diseases in which the pupils are of especial value in diagnosis are tabes, progressive paralysis, hysteria, epilepsy and uremic eclampsia.

Diagnosis of Acute and Chronic Mastoid Disease

Dr. J. A. Stucky, Lexington: The cure of acute purulent otitis media is simply a question of drainage. Posterior drainage through the antrum will cure any ordinary case in which the mastoid cells are not already involved in a short time with little scar or deformity. If we effect cures in the acute cases we will have no chronic ones. It is the chronic cases that result in loss of hearing and life. Because the general practitioner first sees the acute cases the responsibility of much of the deafness that follows rests on him unless prompt relief is given. Therefore, correct diagnosis and prompt surgical treatment are most important. What the appendix is to the abdomen the mastoid cells are to the cranial cavity, the point of least resistance, and the easiest and safest to relieve when involved pathologically. Cases of mastoiditis in which the drum membrane and middle-ear cavity show little evidence of disease, and frequent anatomical irregularities, give rise to misleading symptoms.

Treatment of Acute Mastoid Disease

Dr. Lamm S. Givens, Cynthiana: The two most important points in the management of acute mastoid disease that have not already been emphasized appear to be transillumination and examination of the pus for bone débris. Each of these has been written on, but neither has received the attention that it deserves. Examination of the mastoid by transillumination is based on the fact, which can be easily demonstrated, that the healthy normal mastoid will transmit light, while a mastoid filled with pus or granulation tissue will obstruct the passage of light. In the acute cases which hang on for a considerable time, and in the subacute cases it is desirable to know, so far as possible, the extent of the pathologic changes within the mastoid.

If the bony partitions between the mastoid cells are broken down, bone débris will be found in the pus. When bone débris is found it is positive evidence that an operation should be performed. Looking on mastoiditis as a preventable disease, however, prevention is the thing to be aimed at by those who have the opportunity to institute such measures.

Fat Embolism

Dr. W. H. MacCracken, Louisville: Fat embolism is a condition that until recently has received little attention at the hands of the medical profession. The phenomenon is probably exceedingly rare, but doubtless occurs both as a result of accidental injuries and as a mishap of the operating room. It should always be remembered that fat as it exists at body temperature is a liquid, capable of flowing through any channel which may be opened to it and only solidifying when cooled by exposure. This being true, it readily follows that any accident involving the rupture or the cutting of a large vein, especially a vein located near the surface of the body, may be followed by the entrance of a considerable quantity of liquid fat into the blood vessel. This fat will, of course, be carried at once to the right side of the heart and thence enter the pulmonary circulation. Fat and blood will not mix; hence it follows that during the time that this fat is passing the capillaries of the lungs the blood must remain partially or completely unaërated, thus being deprived of oxygen and rendered incapable of ridding itself of carbon dioxid. Much remains to be done in the way of investigation along this line, but enough has already been accomplished to show that this accident may account for some of the sudden fatalities following comminuted fractures, and for some of the deaths on the operating table which in the past have been imputed to the carlessness of the anesthetists.

Local Versus General Anesthesia in Anorectal Surgery

Dr. S. J. Gant, New York: 1. Time should not be wasted in attempts to build up patients suffering from rectal diseases before operation because their run-down condition is usually due to their local ailment and will not improve until it is corrected. 2. Elaborate preparations of patients for rectal operations by purgation and colonic flushings are undesirable because they liquefy the feces and fill the colon with water which constantly dribbles over the field of operation. 3. It is much better to let the patient alone until one hour previous to operation and then give him a low water or medicated enema which will cleanse the rectum and be entirely expelled. 4. When operating for hemorrhoids, fissure, fistula, polyps and many other rectal affections, there is practically no danger from infection, consequently patient should not be given the unnecessary pain caused by plugging the rectum with antiseptic gauze or the annoyance induced by outgrowing hairs when the parts have been shaved. 5. More than 80 per cent. of all diseases of the anorectal region can be radically and painlessly operated on under local anesthesia at the office, the home of the patient or hospital. 6. The common practice of administering gas, ether, chloroform and other general anesthetics is unjustifiable in this class of cases because nearly all these ailments can be operated on within five or eight minutes under regional anesthesia. 7. Operations for fissure, hemorrhoids, ulcers, polyps, papillæ, simple fistula, etc., can be quickly performed under anesthesia produced by cocain, eucain, sterile water, or any other of the recognized local anesthetics if the surgeon knows how to use them properly. 8. When the operator's technic is perfect, the operation will cause no pain and the result will be good, but, on the other hand, if his technic is bad he will cause the patient a great deal of suffering during the operation and will not cure him. 9. In this class of work the surgeon who employs the fewest instruments and the most simplified technic accomplishes the most satisfactory results; in fact, a great deal depends on the manner in which the infiltration is made. 10. To obtain desirable results under both local and general anesthesia, it is necessary to do a good operation and to carry out carefully the postoperative treatment. 11. General should be substituted for local anesthesia, in cases of fissure, hemorrhoids, ulcer, fistula, etc., when complicated by some other serious rectal affection, for very deep and extensive operations, and whenever there is any doubt as to the diagnosis or as to the extent of the cutting necessary to be done. 12. The almost universal success which has followed the employment of local anesthetics in operations in and about the rectum should encourage the general surgeon to employ regional anesthesia in other parts of the body very much more frequently than he has in the past.

(To be continued)

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

Eighteenth Annual Meeting, held in Washington, D. C., Oct. 5-8, 1909

The President, Surg.-Gen. Presley M. Rixey, U. S. Navy, in the Chair

Business Session

At the business session, Tuesday, the reports of officers were presented. The chairman of the Committee on Necrology reported that since the last meeting thirteen members had died, of whom four were officers of the Medical Corps of the army and three each officers of the United States Public Health and Marine-Hospital Service of the United States Volunteers in either the Civil or Spanish-American wars, and of the National Guard. The report was, as usual, adopted by a standing vote. The nominating committee reported the nominations for office and place of meeting next year, which have already been noted in The Journal for October 16, page 1300.

Public Meeting

On Tuesday evening the first open session was held. Hon. Hannis Taylor of Alabama, in the opening address, made an eloquent plea for peace, detailing the gigantic preparations for war which are being made at this time the world over. It now looks as if nations might be falling back on the old system of armed neutrality, the essence of which was an armed compact through which peace could be conserved.

Henry B. F. McFarland, District Commissioner, then welcomed the association on behalf of the city of Washington, and Dr. Samuel S. Adams delivered the address of welcome on behalf of the medical fraternity of the District.

President's Address

Rear Admiral Presley M. Rixey, U. S. Navy, after laudatory remarks regarding the work of the association, defined its interests as embracing the physical efficiency of military and naval organizations, the efficiency of the medical profession as regards each of its manifold activities in military spheres of activity, the honor of nations, and the welfare of mankind. No organization is more widely representative of the vital concerns of the human race, and owing to its intimate identification with the great physical emergencies of life and nations, the deliberations of the organization should be fruitful. The success of the Japanese during the recent war with Russia in preventing disease in their army must be attributed in great degree to their acceptance of the fact that their medical officers possessed superior knowledge of sanitary matters, and that, having employed their surgeons as specialists in their particular line, they accepted their advice, gave them the men, material and money to carry out their suggestions, and held them responsible for the results. He also suggested Washington as the permanent meeting place of the association on account of the international character of the organization and because Washington is the military headquarters of the United States.

Foreign Delegates

Surgeon William H. Bell, U. S. Navy, assistant secretary, then presented the insignia of the association to the following delegates from foreign counties: Great Britain, Sir Alfred Keogh, director-general R. A. M. C., and James Porter, C. B., director-general of the Medical Service of the Royal Navy; Guatemala, Señor Don Dr. Louis Toledo Horrarto, envoy extraordinary; Honduras, Señor Don Dr. Louis Lazo, envoy extraordinary; Italy, Claudio Sforza, surgeon-major-general; Japan, Bunzo Tomatsuri, surgeon-inspector of the navy; Mexico, Lieut.-Col. Alejandro Ross, School of Medico-Military Practice; Canada, Lieut.-Col. G. C. Jones, G.G.H.S., director-general of the medical service; France, Major M. Le Routte, surgeon sanitary department; China, Tang Wen-Yuan, director Army Medical School, Surgeon Hsu Ying-Yang; Netherlands, Dr. Bujo, fleet surgeon; Germany, Dr. Presuhn, fleet surgeon. Sir Alfred Keogh responded on behalf of the foreign delegates.

Military Organization and Administration

CAPTAIN HAROLD W. JONES, M.C., U. S. A., arraigned the lack of uniformity in organization of the medical corps of the various states. In many states politics takes an active part in appointments, examinations are not held or are farcical, the annual tours of duty are junketing trips, and the field service a joke. He urged the medical officers of the National Guard to insist on proper qualifications for entrance, a severe examination, and systematic training thereafter in camps of instruction and by lectures and demonstrations, especially in the line of preventive medicine. The benefits of camps of instruction lay in the exercise, open-air life, solution of practical problems in sanitation, and especially in the interchange of ideas between the professional and the amateur soldiers.

COL. VALERY HAVARD, M.C., U. S. A., emphasized the necessity of concerted action in obtaining autonomy for the Medical Corps, including transportation, so that in case of need, the medical department could move its own stores, instead of having to depend on an already overcrowded quartermaster department which proved unable to do all that was asked of it during the stress of the Spanish-American War, with the result that much illness and mortality occurred which might have been obviated had the Medical Corps been autonomous. The entire medico-military personnel should take up this more important matter.

MAJOR GEORGE S. CRAMPTON, M.C., N. G. Pa., declared that the medical officer uneducated as a soldier is useless in time of emergency. The field training is essential as is also the technical experience.

SIR ALFRED KEOGH, R.A.M.C., maintained that while it was the province of the military surgeon to act in a humanitarian capacity, his first object should be to increase the efficiency of the force of his commanding officer. Military surgeons should be more strict in returning to their homes soldiers physically unfit for campaigns. The carrying out of this policy would greatly reduce the wastage of armies through disease in time of war.

CAPT. WILLIAM S. ROBERTS, M.C., U. S. A., advocated a more thorough training of medical officers. He believed that with cavalry an ambulance should be assigned to each squadron. As a matter of experience, he advised the carrying of spare parts of the ambulance, particularly poles, which are liable to be broken in going over rough country. As the cavalry service is especially arduous, hospital corps men should be thoroughly instructed in equitation, and should have good horses assigned them, not the castoffs of the troops.

COL. WINSLOW ANDERSON, Surgeon-General N. G. California, praised the camp of instruction at the Presidio of San Francisco and outlined the work done by the medical officers of the guard. The instruction and demonstrations by the officers of the Medical Corps of the army were full and explicit, and great benefit was derived by the National Guard officers. The chief good seemed to be in line of administration and "paper" work, hygiene and sanitation. He spoke strongly on the need of a complete field equipment for the state troops.

DR. JOHANN STEINER, Imperial and Royal War Minister, in his paper, which was read by the secretary, detailed the new regulations for ambulance trains in the Austro-Hungarian service. The hospital train is made up of twenty-six cars, and constitutes a complete hospital, commanded by a captain, with personnel of a lieutenant, sergeant and thirty-four privates. Two ambulance trains, each having accommodations for 364 patients, including sixty-four recumbents, are provided for each army corps in charge of a medical officer, or line officer, or local practitioner.

BRIG.-GEN. CHARLES C. FOSTER, Surgeon-General, of Massachusetts, considered an examination board as a substitute for the correspondence course advocated for the training of national guard medical officers. The board should examine candidates with care, using questions which cover the main ground of the duties and responsibilities of medical officers. The members of the board should then mark each paper independently, and the final mark should be the average of the individual findings.

Supplies and Equipment

MAJOR CARL R. DARNELL, M.C., U. S. A., in considering the question of field medical supplies for the organized militia, stated that the Medical Supply Depot is prepared to furnish full equipment as detailed as the manual of the medical department to every militia organization which makes proper requisition. The state should have one fully-equipped field hospital for every 2,500 men. Requisitions should be made through official channels, and it would be well for each state to have a medical supply depot with a medical officer in charge who would make issues of equipment and supplies on receipt of proper requisitions.

COL. VALERY HAVARD, M.C., U. S. A., reported progress in the work of the War Department in all questions of organization, including the organization of medical depots. In addition to the regulation ambulances, two-wheeled ambulances have been devised. One great difficulty encountered is the distribution of supplies. In the landing of supplies in Cuba the medical department was greatly hampered because it did not have control of its own transportation. The agencies for the distribution of knowledge to the organized militia are the association camps of instruction and the various medical schools of the army and navy. In his opinion, it was only a question of time until correspondence schools would be established by the War Department in the Department of Militia Affairs.

LIEUT.-COL. ALEJANDRO ROSS, C.M.M.M., described a new system of diagnosis tallies for wounded in war. His plan calls for markings on the diagnosis tags to indicate the severity of the wound, whether or not dressed, etc. For instance, a tag bearing a circle would mean a slight wound; a triangle would indicate a severe wound; a square a very severe wound; a horizontal line, that a provisional dressing had been applied; two parallel horizontal lines, that a permanent dressing had been made; a perpendicular line would show that the patient had a wound requiring operation; two parallel perpendicular lines, that the operation had already been performed; a figure of eight on its side, that further operative interference was required, etc. These signs in combination could be made to give practically the entire history of the patient.

LIEUT.-COL. LOUIS A. LA GARDE, M.C., U. S. A., made a report for the committee appointed several years ago to make exhaustive tests as to the stopping power and shock effects of twelve different kinds of bullets from various pistols and revolvers, illustrated by charts. This was to have been further illustrated by lantern slides, but the latter graphic portion of the reports unfortunately could not be given owing to the impossibility of darkening the room.

(To be continued)

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Professional Compensation for Public Services

The *British Medical Journal* discusses editorially, October 23, the question of adequate remuneration by public authorities for medical services, which is at present receiving much consideration in England. A number of specific instances are cited to show the evident value placed on medical services. The Barry Hospital in Wales was established for the benefit of working men of the docks, and in 1900 was taken over by the Barry Urban District Council. The district contains a population of about 33,000, almost entirely composed of the workmen of the Barry docks, their families and the tradesmen who supply their wants. The docks employ between 8,000 and 10,000 men. Originally, all the physicians of Barry were members of the staff of the hospital. Questions have recently arisen regarding the makeup of the staff. The matter was referred by the Cardiff Division of the British Medical Association to the hospital's committee, which instructed the Medical Secretary to investigate the matter. As a result of the investigation, the committee recommended that the hospital should be open to each medical practitioner in the district who had been in practice there for six months, physicians to serve in rotation and to be paid £20 ($100) for three months' service, the local profession taking the position that while they were perfectly willing to give their services free in the case of a voluntary hospital (that is, one supported by voluntary contributions), they did not consider that they should be asked to do so in the case of a hospital entirely supported by the rates (taxes), as was the Barry Hospital. This proposition, involving the payment of about $30 a month to each physician for the time actually spent in service, was rejected by the district council solely on account of the compensation feature.

The Aberystwyth Board of Guardians recently took exception to a bill for £1 2s. 6d. ($5.44) sent in by a local physician for the examination of nine imbeciles. At the same meeting, objection was made to a bill of £1 1s. ($5.08), rendered for administering chloroform to a patient in the hospital, on the ground that the board had recently passed a resolution to pay only 10s. 6d. ($2.54) for such services. The surgeon in charge asked what would be his position in case he were not able to secure the assistance of a medical man to administer chloroform on these terms, as he said he would not take the responsibility of administering the chloroform and he did not know a medical man who would do it for less than a guinea ($5.08), and that it was unreasonable to expect him to pay a guinea for assistance when he was only paid 15 shillings ($3.75) himself. The board declined to pay more than this amount.

The Salford Board of Guardians refused to grant any of the requests made by the Salford Division of the British Medical Association, or even to negotiate with them. Accordingly, a warning notice has been published in the *British Medical Journal*, and, as a result, the guardians have been unable to obtain any medical officer for Hope Hospital. The positions of senior and junior resident medical officer are now vacant, and the deadlock has lasted since the end of July, due entirely to the refusal of the guardians to discuss the points at issue, which involve the status of the senior medical officer and the salary which he should be paid. The Salford Division of the British Medical Association has taken the position that the question of what is a fair salary to accept is one for the profession alone to decide, and that the salary offered is "miserably inadequate."

The recent action of the post-office department is also of interest in this connection. Under the superannuation act, which became a law on September 20, certain postal officers are entitled to free medical attendance, for which services a fee of 3s. 6d. (84 cents) has been offered to the postal medical officers. The physicians holding appointments under the post-office department claim that this is an imposition of extra work for a miserably inadequate fee, while the department apparently takes great credit to itself for its generosity in offering any fee at all. In the case of postal officers not entitled to free medical services, the department has announced that medical men would be entitled to a fee of 5s. ($1.25) for physical examination, payable by the postal officer himself, regardless of how high the officer's salary might be. As the salary of the patient might in some cases run as high as $5,000 a year, the compensation to physicians is obviously out of proportion to the value of the services. To the objection of the postal medical officers, the department replied that if they would not do the work for five shillings it would be given "to other physicians who would be glad to do it." As the *British Medical Journal* says: "This is nothing more nor less than an attempt by a government department to punish the medical officers if they will not allow themselves to be exploited." The position taken by the joint committee of the Manchester and Salford divisions of the British Medical Association is that the proposal of the post-office department amounts to a decision that $1.25 is quite enough for an insurance examination, even for a large amount, and that it is an invitation to general practitioners to "undersell" the postal medical officers in case they demand more.

Another case of the same tendency is reported, the Council of the Metropolitan Borough of Wandsworth having sent an official communication to a member of South-West London Medical Society proposing the following fees for professional services rendered to employees of the council who may claim sick allowances in case of accident or illness: services rendered at the physician's office 1s. (24 cents) for each examination and report; services rendered at the employee's home, 2s. 6d. (60 cents) for each examination and report. The member of the society to whom this proposition was made declined it, saying: "I can only regret that the council have such a contemptible opinion of the value of the medical man's time."

Commenting on these recent instances of the estimate placed by public officials on the value of professional services, the *British Medical Journal* says, "It is worth noting that in two of the cases, the medical services are required, not in the interest of suffering individuals, but purely as a matter of actuarial business, to guard the state or the local authority either from malingering or fraud. The most temperate protests (on the part of the medical men) are met by state departments and municipalities alike by what practically amounts to the answer, 'Take it or leave it; if you don't take it we shall very soon find other doctors who will.' It is disagreeable and somewhat unfortunate that difficulties which arise between the medical profession and the state or local authorities should so often turn on questions of money. We are told that we are a noble and generous profession, existing for the good of mankind and that we endanger our reputation for nobility of character and generosity of action by insisting on higher fees and salaries than are offered. But this is not common sense. The members of the medical profession have to earn their living like other folks and while they never fail to respond to the call of charity, they are not only justified in rejecting, but as good citizens bound to repel, proposals which are contrary to sound economic principles. It would seem sometimes as though public charities acted on the assumption that medicine was already endowed by the state and its practitioners in receipt of retaining salaries to which it was only necessary to add some trifling honorarium when new duties were imposed. The truth, of course, is that, save in the cause of charity, medical men are entitled to claim the full value of the services they render. Business men may consider it good business to set as low a pecuniary value on these services as they think will be accepted, trusting to competition to keep the price down and the quality up. But there is a limit to legitimate competition; either the quality will decline or the worker will not receive a living wage. The limit has been reached and is frequently overpassed in the dealings of public authorities with the medical profession. The only effectual remedy for this state of things is combination and union within the profession and this can be attained only through the British Medical Association which has the will and possesses the necessary machinery."

The comments of the *Journal* are eminently pertinent and timely. Public positions and services rendered the state or the municipality by members of the legal profession, civil engineers and others, have always been recognized as entitled to the same or often higher compensation than that paid by the private individual for the same services. This is shown by the eagerness with which such positions as city or state's attorney, attorney-general, etc., are sought by lawyers, many of whom receive for their services much higher compensation than they could secure in private practice, or at least than they would receive for the same services rendered to individuals. Purely through the carelessness and altruism of the medical profession, however, the idea has been allowed to gain ground in the public mind that medical services rendered to the town, county or state are given gratuitously or are to be paid for at an absurdly low rate. Physicians on the attending staffs of practically all our public hospitals serve without pay. As was shown in last week's issue, the burden of professional charity imposed on the medical profession in our large cities is about fifty times greater than that imposed on other classes of society. In addition to this enormous burden, physicians are asked to deal with the state, county and city when they desire medical services as though they were dealing with pauper patients, and to furnish needed medical services either at the expense of the profession or for an amount of compensation that is utterly out of proportion to the value of the services rendered.

This question, which has been widely discussed and agitated in England, should be taken up dispassionately and thoroughly by the medical profession in the United States in order that the necessary data may be secured on which to base arguments and claims for proper compensation. Owing to the growing importance of preventive medicine and state sanitation the importance of this question will be vastly increased in the next few years rather than diminished. The time is coming when prevention and state medicine will constitute the bulk of professional work, and it behooves us to see that compensation for such work be ample enough to make the profession self-respecting and free from material want.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month—Third Weekly Meeting

Smallpox, Variola

Etiology: Contagiousness, age, sex, race, season. Variations in epidemics.

Bacteriology: Work of Guarnieri, of Councilman.

Pathology: Microscopic changes occurring in lesions.

Symptoms: A. Variola vera; (a) discrete, (b) confluent. Period of incubation, length, variations. Invasion, symptoms, prodromal rashes. Eruption in (a) discrete, (b) confluent form. Desiccation, desquamation.

B. Variola hemorrhagica; (a) purpura variolosa, (b) variolosa pustulosa hemorrhagica. Symptoms and lesions of each form.

C. Varioloid. Symptoms, lesions.

Diagnosis: Early, differentiation from meningitis, typhoid, influenza, scarlet fever, etc. Eruption, from measles, scarlet fever, varicella, syphilis, glanders, drug eruption.

Vaccinia: History, nature of vaccinia.

Vaccination: Preparation of lymph. Technic of vaccination. Normal vaccination. Irregular vaccination: A. Local variations. B. Generalized vaccinia, (a) spontaneous generalized vaccinia; (b) from autointoxication. C. Complications, (a) local, erythema, impetigo cotagiosa, erysipelas, ulceration, gangrene, cellulitis, etc.; (b) constitutional, purpura, urticaria, syphilis, leprosy, tuberculosis.

Marriages

Oscar L. Long, M.D., to Miss Grace McFrederick, both of Baltimore, October 27.

Robert E. Stevens, M.D., to Miss Mabel Healey, both of Rochelle, Ill., October 20.

Charles E. Burke, M.D., to Miss Zella Lynch, both of Atlantic, Iowa, October 27.

E. Barbour Pendleton, M.D., Cuckoo, Va., to Miss Virginia Hunter Goodman, October 23.

H. Frances Bartlett, M.D., Philadelphia, and William Tyson of Pittsburg, October 27.

John Frank Simison, M.D., Romney, Ind., to Miss Olive L. Neal of Aylmer, Ont., October 24.

Evald Olson, M.D., to Miss Laura Lillian Sellards, both of Burlingame, Kan., September 22.

Harry DeWitt Fast, M.D., to Miss Luella Adaline Miller, both of Mackinaw, Ill., October 27.

Emil H. Hermann, M.D., Highland, Ill., to Miss Bertha Hermann of Fillmore, Ill., October 31.

Peter McLean, M.D., Laurinburg, N. C., to Miss Alice Lee Elliott of Fayetteville, N. C., recently.

Walter Wilson House, M.D., Thompsonville, Ill., to Miss Nona Steele of DeSoto, Ill., October 24.

Antonio Fanoni, M.D., New York City, to Miss Emily Stanley Merill of Brooklyn, October 28.

Allen Galpin Rice, M.D., Springfield, Mass., to Miss Mary Merrihew of Newton, Mass., October 27.

Aaron P. Wolever, M.D., Willisville, Ill., to Miss Portia Catlett, at Springfield, Ill., September 21.

Lloyd E. Goodpasture, M.D., Thayer, Ill., to Miss Frances Ann Carter of Chesterfield, Ill., October 14.

Norman O. Dalager, M.D., Tolley, N. Dak., to Miss Lena Othelia Nelson of Grano, N. Dak., October 21.

William Likely Simpson, M.D., Memphis, Tenn., to Miss Lenora A. Balderson of Mount Ayr, Iowa, October 27.

Joseph Hersey Pratt, M.D., Boston, Mass., to Miss Rosamond Means Thomson of Andover, Mass., October 23.

Darius Cleveland Absher, M.D., North Wilkesboro, N. C., to Miss Bethania Ashby of Mount Airy, N. C., October 27.

John Robert Paddison, M.D., Oak Ridge, N. C., to Miss Zora Sapp of Kernersville, N. C., at Greensboro, N. C., October 28.

Deaths

Charles Henry Cobb, M.D. Harvard Medical School, Boston, 1881; a member of the Massachusetts Medical Society; professor of materia medica and therapeutics and dean of the faculty of the College of Physicians and Surgeons, Boston; died at his home in Boston, October 31, from acute peritonitis, aged 65. The faculty of the college, at a special meeting, adopted resolutions eulogizing Dr. Cobb as a beloved and faithful member of the faculty, a true disciple of medicine, a competent instructor and a sincere devoted friend.

Benjamin Harrison Kidder, M.D. Long Island College Hospital, Brooklyn, N. Y., 1861; of Malden, Mass.; rear admiral U. S. Navy, retired, on attaining the age of 62 years, Jan. 23, 1898, after fourteen years and three months' sea service and seventeen years and seven months' shore or other duty; at one time president of the medical examining board of the Navy; died at his summer home in Edgartown, Mass., October 26, aged 73.

Robert L. Caruthers White, M.D. Jefferson Medical College, Philadelphia, 1868; a Confederate veteran; for several years editor and owner of the *Lebanon (Tenn.) Herald*; for nineteen years Supreme Keeper of the Records and Seal of the order of Knights of Pythias; a journalist of more than local reputation and a literary man of superior attainments; died at his home in Nashville, October 29, aged 65.

Warren David Springer, M.D. Trinity Medical College, Toronto, 1889; a member of the American Medical Association; secretary of the Idaho State Board of Health; major-surgeon of the First Idaho Infantry U. S. V. in the Spanish-American War, and for a year and a half on duty in the Philippine Islands; died at his home in Boise, October 19, from angina pectoris, aged 44.

George Robert Harris, M.D. College of Physicians and Surgeons, New York City, 1885; a member of the Connecticut State Medical Society; surgeon to the Backus Hospital, Norwich, Conn.; local surgeon to the New York, New Haven and Hartford Railroad; secretary of the local pension board; medical examiner for Norwich; died at his home, October 20, from cerebral hemorrhage, aged 44.

William Gilbert Terwilliger, M.D. College of Physicians and Surgeons, New York City, 1894; of Brooklyn, N. Y.; a member of the Medical Society of the State of New York; was instantly killed in a collision between the automobile in which he was riding and a train of the Long Island Railroad, near Long Beach, N. Y., October 30, aged 38.

Cleophas Joseph Ducote, M.D. Tulane University, New Orleans, 1875; a member of the American Medical Association; for many years a member of the Board of Supervisors of the State University; once president of the Louisiana State Medical Society and State Board of Health; twice state senator; died at his home in Cottonport, October 26, from cerebral hemorrhage, aged 59.

Hugh France, M.D. Bellevue Hospital Medical College, New York City, 1892; of Wallace, Idaho; a member of the American Medical Association; coroner and health officer of Shoshone county in 1899; once sheriff of the county and provost marshal and state senator; died in Seattle, October 26, from cancer of the liver, aged 42.

Elmore Palmer, M.D. University of Michigan, Ann Arbor, 1864; formerly president of the Western New York Medical Society; a medical cadet, serving with the Twenty-ninth Michigan Volunteer Infantry, and afterward as a surgeon during the Civil War; died at his home in Buffalo, N. Y., October 23, aged 69.

William E. Scobey, M.D. Medical College of Ohio, Cincinnati, 1866; contract surgeon in the army and afterward captain and assistant surgeon, and assigned to duty with the Forty-fifth Kentucky Volunteer Infantry during the Civil War; died at his home in Kankakee, Ill., October 24, from nervous breakdown, aged 68.

George Watt, M.D. College of Physicians and Surgeons, San Francisco, 1903; a member of the American Medical Association; and physician of Glenn county, Cal.; died at his home in Willows, October 24, from injuries received in an automobile accident the day before, aged 44.

Leyander John Young, M.D. University of Vermont, Burlington, 1877; a member of the American Medical Association; chairman of the board of health of Haverhill, Mass.; died suddenly October 27, from cerebral hemorrhage, while making a professional call, aged 59.

Samuel R. Elliott, M.D. New York Medical College, New York City, 1856; surgeon of the Fifth New York Volunteer Heavy Artillery in the Civil War; well known as a magazine writer; died at his home in Livingston, Staten Island, New York, October 26, aged 73.

Edward William Thomas, M.D. Cooper Medical College, San Francisco, 1892; a member of the American Medical Association; founder and superintendent of the Thomas Sanatorium, San Francisco; died October 21, six days after an operation for appendicitis, aged 47.

Gregg Henderson, M.D. New York Homeopathic Medical College, New York City, 1866; a charter member of the Ontario Medical Council, and in 1897 its president; for thirty-four years medical health officer of Strathroy; died at his home, August 25, aged 72.

Jesse Eugene Cook, M.D. Dartmouth Medical School, Hanover, N. H., 1896; representative in the legislature from Waldo county, Maine, and a member of the staff of Waldo County Hospital; died at his home in Unity, October 15, from tuberculosis, aged 40.

Thomas L. Banks, M.D. University of Pennsylvania, Philadelphia, 1854; one of the oldest practitioners of North Carolina, and formerly state senator; died at his home in lower Wake county, near Raleigh, October 26, from pleurisy.

John Albert Lamberson (license, Ore., 1891); a practitioner of Lebanon, Ore., for twenty-seven years; a member of the Oregon State Medical Association; died at his home, October 13, from cerebral hemorrhage, aged 55.

J. P. Minus, M.D. Medical College of the State of South Carolina, Charleston; a veteran of the Civil War; afterward superintendent of education of Dorchester county, S. C.; died at his home in St. George, October 11, aged 70.

John Meador Goldsmith, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1900; of Atlanta, Ga.; was found dead in a room in the Marion Hotel, Atlanta, October 26, from hemorrhage of the lungs, aged 33.

George Peter Rasbach, M.D. Bellevue Hospital Medical College, New York City, 1876; house physician for many years to the Old Ladies Home, Mohawk, N. Y.; died at his home in that place, October 20, aged 57.

August Gronerud, M.D. Kentucky School of Medicine, Louisville, 1897; of Bronson, Minn.; died in that place, October 21, from the effects of an overdose of morphin, of which he is said to have been an habitué.

Edward Pitt Marston, M.D. Dartmouth Medical School, Hanover, N. H., 1884; a member of the Maine Medical Association; died at his home in Monmouth, October 27, from cerebral hemorrhage, aged 47.

John Trumbull Metcalfe, M.D. University of Pennsylvania, Philadelphia, 1843; first president of the New Haven Dental Society; died at his home in Brooklyn, N. Y., October 29, from senile debility, aged 91.

Walter Melville Barrett, M.D. Missouri Medical College, St. Louis, 1880; a member of the Medical Society of the State of California; died at his home in Redwood City, October 26, from pneumonia, aged 53.

Nicholas L. Hornsby, M.D. Transylvania University, Lexington, Ky., 1842; said to have been the oldest resident of Carondelet, St. Louis; died at his home, October 26, from senile debility, aged 87.

William John Hamilton, M.D. Cleveland University of Medicine and Surgery, 1873; died at his home in Dunbar, Pa., October 26, from pneumonia complicating typhoid fever, aged 62.

Griffith W. D. Patterson, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1887; a veteran of the Civil War; died at his home in Atlanta, Ga., October 23, aged 72.

William Thompson, M.D. University of Nashville, 1856; a surgeon in the Confederate Service during the Civil War; died at his home in Little Rock, Ark., October 26, aged 79.

Omer G. W. Adams (license, Iowa, years of practice); an eclectic practitioner of Dubuque, Iowa; died in a hospital in Chicago, October 12, from acute bronchitis, aged 67.

Clarence Nichols, M.D. Hahnemann Medical College, Philadelphia, 1892; formerly of Baltimore; was drowned while oystering near Cambridge, Md., October 27, aged 35.

George B. Dowling, M.D. New York Homeopathic Medical College, 1886; of Tarrytown, N. Y.; died at the Manhattan Square Hotel, New York City, October 30, aged 42.

David S. Sampsel, M.D. Jefferson Medical College, Philadelphia, 1874; died at his home in Ashland, Ohio, October 29, from cerebral hemorrhage, aged 61.

Edward Playter, M.B. University of Toronto, 1860; formerly of Ottawa; died at his home in Chester, Ont., recently, from heart disease, aged 73.

Josiah Finlay Cadmus, M.D. College of Physicians and Surgeons, New York City, 1848; died at his home in New York City, October 28, aged 90.

Joseph K. Julian, M.D. Indiana Medical College, Indianapolis, 1872; died at his home in Covington, Okla., October 19, aged 62.

Hiram Hemstreet, M.D. Geneva (N. Y.) Medical College, 1850; died at his home in Canastota, N. Y., October 23, aged 86.

Book Notices

Clinical Lectures on Neurasthenia. By Thomas Dixon Savill, M.D., Physician to the West End Hospital for Diseases of the Nervous System, Welbeck Street, London. Cloth. Pp. 226. Fourth Edition. Price, $2.00 net. New York: William Wood & Co., 1908.

Lectures on Hysteria and Allied Vasomotor Conditions. By Thomas Dixon Savill, M.D., Physician to the West End Hospital for Diseases of the Nervous System, Welbeck Street, London. Cloth. Pp. 262, with 21 illustrations. Price, $2.50 net. New York: William Wood & Co., 1909.

Notwithstanding the fact that one of these books is in its fourth edition, we note the books together, because hysteria and neurasthenia are not so clearly differentiated in the mind of the average practitioner as they should be. And we fear that Savill's lectures will not help much toward making the differentiation any clearer; for, in building up the hypothetical pathology of both diseases, he lays so much stress on vasomotor manifestations and analogies, and attributes these so largely to an underlying toxemia that one is forced to ask wherein, after all, hysteria and neurasthenia differ. The only difference Savill seems to make is that hysteria is an angioneurotic (chiefly splanchnic) paroxysmal trouble, whereas neurasthenia is an angiotoxemic (chiefly gastrointestinal) nonparoxysmal affection. The difficulty with this distinction, however, is that clinically it is not so apparent as it theoretically promises to be. And therein lies the main objection to these books. They fail signally to tell us how to distingui at the bedside between hysteria and neurasthenia, the sy toms of each being so interchangeable; while they assume pathology for both that is founded, particularly in hyste on a loose, unstable and unimportant symptomatic basis. deed, many of the illustrative cases reported by Sav neurasthenia would be diagnosed by neurologists of the ern school as hysteria, and *vice versa*.

We believe that the general consensus of opinion that neurasthenia is a disturbance of the primary functions of the ultimate elements of the entir apparatus, such disturbance being initiated and con toxemia, malnutrition and traumatism, as well as but that hysteria is a pure psychosis, a disease of ality depending on a faulty activity among the interrelated functions of the nervous element panied by a host of subsidiary manifestatio organs of the body. This is a sharp distinct be well supported by recent observations logic and psychologic laboratories, as well as Savill does not recognize it. Of neurasthen

"Lectures on Neurasthenia"): "All the symptoms point to an irritability and a weakness of the nervous system, an instability combined with a lack of endurance. Now, the two elements of which all nerve structures consist are cells and fibers, and the defect would seem to be more in the cells, whose function is to initiate and to act as centers of reflex action than in the fibers whose function is to conduct." This definition, faulty as it is in neurophysiology, is quoted for comparison with that on hysteria, which Savill says (p. 187, "Lectures on Hysteria") "consists of an instability, or undue irritability of all the nervous and reflex centers throughout the body, and particularly those of the vasomotor system; that hysterical paralysis or tremor and many other hysterical phenomena hitherto unexplained are produced by vascular changes in the nervous system; and that the essential defect in the nervous system on which hysteria depends, whatever it may be, is inborn and inherent—that is to say, the reflex centers in hysterical subjects are throughout life more unstable than those of other people." He says (ibid, p. 185): "My own conclusion as regards the pathology of hysteria is that a large proportion, probably nine-tenths, of hysterical symptoms, depend in the main on an instability of the vasomotor centers throughout the body and a want of coordination among these centers, associated with more or less emotional instability. And these factors are aggravated by toxemia or malnutrition." As to neurasthenia, we are told (pp. 67-68, "Lectures on Neurasthenia") that the "irritability and weakness of the nerve cells" are produced by "toxic blood states," "malnutrition," "fatigue or overfunctioning of the nervous system," and "emotional shock and traumatism," while behind these "there are four ways in which heredity as a predisposing cause of neurasthenia may, and does sometimes, act," thought it "does not seem to play so important a part here as it does in cases of hysteria" (p. 59). In a word, then, instead of being two distinct and dissimilar affections, hysteria and neurasthenia are the same, depending, respectively, merely on different degrees of heredity, toxemia, vasomotor disturbance and neural reflex irritability and instability. Such a conception of these two great maladies, especially hysteria, is not only antiquated ("I have taught the views herein expressed for twenty years, 1899 to 1909;" preface to the "Lectures on Hysteria"), but is woefully confusing and unscientific.

We do not recall having ever seen that besetting sin of the clinician, the argument by analogy, for which Savill pleads so elaborately and names "the method of analogy," pushed to a greater extreme. Not only does he base his entire pathology of hysteria and neurasthenia on imaginary internal vasomotor conditions, similar to the external flushings and pallors, but he even attributes the hemiplegias, the paraplegias, spasms, tremors, etc., observed in these functional troubles, to the same vasomotor processes which are known to give rise to the same phenomena in the organic. Indeed, he goes to the length of allying such toxangioneurotic conditions as erythromelalgia, acroparesthesia, sclerodactylia, "dead hands," Raynaud's disease, migraine, epilepsy and exophthalmic goiter to hysteria, because, forsooth, hysteria manifests vasomotor symptoms not wholly unlike those seen in these troubles; and he argues that this analogy and assumed close relationship between them all but proves the vasomotor nature of hysteria. This cutaneous argumentation concerning so well-recognized a psychosis as hysteria betrays in Dr. Savill less of the psychologist than of the "physician to the St. John's Hospital for Diseases of the Skin, London," (title page of "Lectures on Hysteria").

In like manner, Savill might have gone on with his "method of analogy," treacherous as logicians have long known it to be, and referred to the vasomotor disturbances that initiate all toxemic states, all inflammations and all traumatic abnormalities in the circulation, often occurring in non-hysterical as well as hysterical individuals, and then have drawn the all-comprehensive conclusion which the reader can scarcely escape drawing for himself after reading these books, that hysteria (and even to a lesser degree neurasthenia) is "a complex protean disorder, chiefly affecting the female sex, manifested by an immense variety of nervous, neuromuscular, neurovascular, sensory and other symptoms which may be referable to almost any organ or part of the body" ("Lectures on Hysteria," p. 5). To diagnose hysteria on such a clinical picture and conception of its pathology would be for us, we confess, a most "complex protean" problem. Frankly, we would not attempt it. We would adopt the easier and more common procedure of calling everything hysteria and a few of the less striking things neurasthenia, when we did not feel quite sure that they were something else. And that is about what these lectures encourage one to do.

In view of the unscientific conception of the nature of hysteria herein taught, it is not to be wondered at that the therapeutic measures recommended for the management of both hysteria and neurasthenia should be so elaborate, indefinite and multitudinous. The nervous irritability, the toxemia and the vasomotor disturbances are the guide-lines for the treatment of hysteria; while psychotherapy is made almost as prominent in the management of neurasthenia as any of the other measures.

Curious indeed is it to read (p. 196, "Lectures on Hysteria") in this day of scientific progress that when recommending valerian and asafetida for hysteria, it is to be remembered that "the taste of these drugs is not so unpleasant as their odor, which may be partially counteracted by holding the nose while swallowing the medicine."

Such books as these are to be strongly condemned, for, in addition to being incomplete and inadequate, they help to keep alive certain ancient, vague notions of the clinicians in regard to vasomotor and reflex phenomena long ago relinquished by the neuropathologists and physiologists; and they tend to encourage the general practitioner to remain satisfied with these notions instead of forcing him to learn what the more recent advances have been.

Die chemische Entwicklungserregung des tierischen Eies (Künstliche Parthenogenese). *Von Jacques Loeb, Professor* der Physiologie an der University of California in Berkeley. Paper. Mit 56 Textfiguren. Price, 9 marks. Berlin: Julius Springer, 1909.

In this book the distinguished author and investigator gives the results of his investigations by physicochemical means of the problem of the development of the ovum. Believing that purely morphologic observations would not give us any real insight into the nature of the forces that cause the ovum to develop into the embryo, Loeb several years ago began his celebrated experiments on artificial parthenogenesis of the eggs of various sea animals, which have led to such important results and which have been continued uninterruptedly to the present time. He has discovered that the process of development may be started by a number of artificial agents, including solutions of electrolytes, changes in the osmotic pressure of the medium, fatty acids, and combinations in various ways of these and other means. At the same time attention has been directed to the nature of the mechanisms involved and suggestive sidelights thrown on pathologic processes, more particularly on all proliferation as illustrated by the growth of tumors and by inflammatory proliferations. In the introduction to this book Loeb gives a valuable summary of the progress of his investigations and the essential results so far obtained. In the body of the book the various lines and methods of investigation and the results of each with different kinds of eggs are given with adequate detail on the basis of and with constant reference to the original articles by himself, his pupils and other workers. Professor Loeb is a genial investigator and a clear and succinct writer. The present book is an invaluable contribution to our knowledge of one of the most important of all biologic processes, and it will be received with a warm welcome not only by zoologists but also by physiologists, pathologists and chemists as well as by all physicians who are interested in the study of basic biologic problems.

The Open-Air Treatment of Pulmonary Tuberculosis. By F. W. Burton-Fanning, M.D., F.R.C.P., Physician to the Norfolk and Norwich Hospital. Second Edition. Cloth. Pp. 184, with illustrations. Price, $1.50 net. New York: Paul B. Hoeber, 1909.

This book bears evidence of having grown out of the personal experience of a careful observer. It excels in the qualities of simplicity and directness. Dr. Fanning avoids the common fault of overvaluation in details of management and in attainable results and shows that the essentials of open-air treatment are not necessarily elaborate or expensive.

Further Advances in Physiology. Edited by Leonard Hill, M.B., F.R.S. Cloth. Pp. 440, with illustrations. Price, $4.20. New York: Longmans, Green & Co., 1909.

This book represents the latest views of certain English physiologists on selected physiologic subjects. These views are the result of a study of the recent literature and of original work by the authors themselves on these problems. The book should be profitable especially to workers in physiology, as well as to all those who are interested in those problems in physiology which have particular application to clinical medicine or to pathology. Such a book gives a wider and more advanced view than could be obtained from ordinary text-books.

This volume follows "Recent Advances in Physiology" and is the second of a series of books on "Advances in Physiology." Mr. Hill expresses the hope that others of "More" and even "Further Advances in Physiology" may appear in the future. This second volume is similar to the first in the method of treating the subject-matter. The first dealt with problems of metabolism, secretion, and excretion, while the second deals with the problem of the circulation, respiration, the neuromuscular system, and with vision.

The first chapter of the book, by Benjamin Moore, is on "The Equilibrium of Colloid and Crystalloid in Living Cells." Moore says that the conception that the living cell is a mass of fluid, in which are dissolved crystalloids and the whole surrounded by a semi-permeable membrane or cell wall, is a highly pernicious conception in biology. He believes that the various organic and inorganic constituents of living cells are held in loose chemical combination with the bioplasm or proteins, and asserts that this latter conception is necessary to explain the action of drugs.

Hill in his article on "The Vascular System and Blood-Pressure" discusses the difficulties of the mere filtration and osmosis theory for the secretion of urine, formation of lymph edema, etc. It might be questioned whether Hill gives sufficient credit to Guthrie, along with Carrel, in opening up the field of experimental blood-vessel surgery; as well as whether he gives a correct conception of the technic employed by these investigators. In "The Mechanism of Respiration in Man," Arthur Keith gives his own work on respiratory movements. He endeavors to show that many problems in respiration are to be explained on a purely mechanical basis. M. S. Pembrey contributes the article on "The Physiology of Muscular Work," in which he discusses the influences of muscular work on the heart, respiration, the exchange of materials in the blood, and on the glandular system, concluding with its relation to fatigue.

"Some Chapters on the Physiology of Nerve," by N. H. Alcock treat of the physiology of nerve activity, regeneration, growth, fatigue, and the behavior of excised nerves. "Recent Researches on the Critical Localization of the Cerebrum," by J. S. Bolton, give some new ideas concerning Broca's localization of aphasia.

Martin Flack contributes the article on the heart, Thomas Lewis on the pulse and the events of the human cardiac cycle, and M. Greenwood on visual adaptation and color vision. Each of the authors, except Moore, has appended a bibliography to his article.

Manual of Chemistry. By W. Simon, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore, and Daniel Base, Ph.D., Professor of Chemistry in the Maryland College of Pharmacy. Ninth Edition. Cloth. Pp. 714, with 87 illustrations, 9 colored. Price, $3 net. Philadelphia: Lea and *Febiger, 1909.*

The ninth edition of this well-known manual preserves the plan and characteristics that have won for it the approval of teachers of chemistry. The most important changes are found in the considerations of physics and of theoretical chemistry and in the department of organic chemistry. The colored plates illustrating the various color reactions form a prominent and useful feature of this text-book.

Minor and Operative Surgery [illegible] By Henry R. Wharton, M.D., Surgeon to the [illegible] Seventh Edition. Cloth. Pp. 657, with [illegible] $3.00. New York and Philadelphia: Lea [illegible]

This very practical handbook has been brought well up to date in the present edition. Those who want a compact manual on the subject will find Wharton's book most satisfactory.

The Sexual Disabilities of Man. By Arthur Cooper, Consulting Surgeon to the Westminster General Dispensary. Cloth. Pp. 184. Price, $1 net. New York: Paul B. Hoeber, 1909.

The, subject is discussed under the two general heads, sterility and impotency. The chapter on sterility accurately describes the various pathologic changes producing this condition. The same may be said of the chapter on microscopy of semen, which is especially good in the description of the changes occurring in the spermatozoa themselves. Treatment is well considered, but a fuller description of vasoepididymostomy might have been given. The chapter on impotency begins with a short lucid description of sexual physiology, followed by the pathology, etiology and treatment. The advice has been given frequently to neurotic patients to take a long sea voyage. Dr. Cooper, very judiciously, we think, warns against such a course unless the patient be provided with proper companionship and supervision. Such patients tend to isolate themselves from society; they should be encouraged to mingle with others, thus getting their thoughts away from themselves. The book is scientific and happily free from all obscure and salacious references so common among writers on these subjects.

The Practical Medicine Series. Under the General Editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School. Vol. VI., General Medicine, Edited by F. Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, M.D., Professor of Medicine, Illinois Postgraduate Medical School. Cloth. Pp. 345, with illustrations. Price, $1.50; or $10 the series of 10 volumes. Chicago: The Year-*Book Publishers, 1909.*

This volume deals with the general infections not treated in Volume I and with the diseases of the abdominal organs. The selection of material covers a wide range of medical literature. The abstracts are so arranged as to afford a systematic view of each subject. Much attention is given to the results of physiologic investigation. Comparatively little of the individual experience of the editors appears in this volume except as incorporated in the general remarks. Occasional errors have crept into the work. We note that the figure illustrating acute dilatation of the stomach is credited by a typographical error to Broadhurst instead of Borchardt. The book contains a good account of the year's advance.

A Text-Book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and Their Employment on a Rational Basis. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Thirteenth Edition. Cloth. Pp. 866, with 122 engravings and 4 colored plates. Price, $4.00. Philadelphia: Lea and Febiger, 1909.

This well-known text-book has been again revised to meet the needs of the practitioner, especially by incorporating information with regard to some of the newer remedies and some of the newer methods of therapy. The local use of magnesium sulphate for relief of pain and inflammation, the Lenhartz method of treating gastric ulcer and Murphy's treatment of peritonitis are examples of these newer methods. A number of illustrative prescriptions have been added. These modifications serve to keep the book well abreast of therapeutic progress.

Practical Gynecology. A. Manual for Nurses and Students. By Netta Stewart, Sister in the Gynecologic Wards of the Royal Infirmary, Edinburgh, and James Young, M.B., F.R.C.S.E., Clinical Tutor in Surgery and Late Resident Gynecologist, Royal Infirmary, Edinburgh. Cloth. Pp. 327, with illustrations and plates. Price, $2.00, net. New York: William Wood & Co., 1909.

This volume (a second and enlarged edition) is prepared primarily for the use of nurses and medical students and describes the technic of examination and minor manipulations, such as irrigation, introduction of catheter and the preparation of the patient for operation. The book is well suited to its purpose and is abundantly illustrated.

Text-Book of Anatomy a[illegible] Nurses. Compiled by Diana Clifford Kimber, [illegible] Training School. Third Edition, Revised by C[illegible], Assistant Superintendent, New York City Training School for Nurses. Cloth. Pp. 421, with illustrations. Price, $2.50. New York: The Macmillan Co., 1909.

This is one of the most practical text-books of the kind on the market. All superfluous matter is eliminated and merely the essential facts stated. The illustrations are good. Particularly valuable is the glossary at the end of the book, which not only defines a word, but gives the derivation as well.

Medicolegal

Admissibility of Testimony as to Result of Investigations Conducted by Several Persons

The Court of Appeals of Maryland says, in the case of Buck vs. Brady (73 Atl. R. 277), that a few days after a dog was killed its head was taken to the Pasteur Institute, in Baltimore, where certain tests were made to discover if the dog had been afflicted with rabies or not. Two physicians from the institute testified that from their investigation of the head, the animal had hydrophobia at the time it was killed. A motion was made to strike out that testimony on the ground that all the work of making the experiments at the institute was not done by one person, but that different parts of the process of investigation were performed by different members of the staff employed there, and that, therefore, the witnesses' opinions were based on hearsay. But the investigation appeared to have been scientifically and carefully made according to the established system in vogue at the institute. All the physicians who took part in the experiments testified as to the parts performed by them, respectively, thus making a complete chain of investigation, and the entries in the record books and on a card label were admitted in evidence in connection with the testimony of the witnesses. Under such circumstances the court thinks the testimony on the result of the experiments was admissible.

Admissibility of Evidence of Declarations of Pain—Admissibility of Evidence of Physician Employed to Examine So as to Testify

The Supreme Court of Mississippi says, in Mississippi Central Railway Co. vs. Turnage (49 So. R. 840), a personal injury case brought by the latter party, that declarations of present pain and suffering, no matter to whom made, are admissible as original evidence in all inquiries where pain and suffering constitute the question involved. Of course, there may be exceptional instances wherein such declarations would be rejected, such as, for instance, where one had been employed to make an examination of an injured party for the express purpose of making a witness of the person making the examination; but the general rule is as above stated. Declarations made by an injured party, narrating the cause of the injury, or narrating past pain and suffering, do not come within the rule, and, being hearsay, cannot be testified to by the party to whom made, to be used either as an original evidence or to bolster up the testimony of the injured party.

The admissibility in evidence of declarations and expressions of present pain and suffering is not dependent on whether or not they constitute a part of the res gestae (immediate circumstances of the case). Nor does time play any part in determining whether or not they are admissible, so long as the declarations and exclamations are confined to existent pain and suffering. Whether this character of evidence be classed as an exception to hearsay or as independent and original evidence, its admissibility is beyond question.

Of course, even though a physician may be employed for the express purpose of examining a person who has been negligently injured, in order that he may testify, such fact does not disqualify the physician from testifying as to the injury and extent of it gathered from the examination alone; but this fact may be considered by the jury as affecting the value of the testimony. The disqualification in such case extends only to the statements made by the injured party to the physician of pain and suffering.

President of Board of Health Not Personally Liable for Quarantine

The Supreme Court of Iowa says that the case of Kirby vs. Harker (121 N. W. R. 1071) was brought to recover damages for the restraint of the plaintiff, in being quarantined for smallpox. The defendant was at the time, as mayor, president of the local board of health. A rumor having reached him that the plaintiff was sick, he went to see him; then sent the health physician, and, on his reporting that it was a case of smallpox, notified a physician who was a member of the state board of health. The latter, while making his examination, told the plaintiff that he diagnosed his case as smallpox, and, in answer to an inquiry as to what was to be done, suggested that he remain in his drugstore with the doors locked until evening, and then go to his home and submit to quarantine. This the plaintiff agreed to do, which the physician reported to the defendant, who called a meeting of the local board of health. In the report to the board it was erroneously stated that the plaintiff had already been quarantined by the defendant, and a resolution was passed approving the quarantine so reported, and that the chairman of the board should quarantine all directly exposed persons.

The court holds that a verdict was properly directed for the defendant. While the record of the board of health recited, as stated, that the plaintiff had already been quarantined, it was shown that there was no restraint until after the board of health had officially directed the quarantine of all suspects, and notice thereof had been served on the plaintiff. If he remained secluded from his neighbors before service of the notice, it was because of his agreement with the member of the state board and was purely voluntary, and hence no liability could be predicated thereon.

In the light of the record before the court it must be held that when the quarantine was finally established and the plaintiff's liberty restrained, it was in pursuance of the formal direction of the board of health, and not on the individual authority of the defendant. Such being the case, the question of a written notice was wholly immaterial. It is evident from section 2568 of the Iowa Code that written notice is only necessary when the mayor acts without authority from the local board of health, and that it is not necessary to confer jurisdiction on such board. That the board of health had the power to act, and that its action was legal, could not be seriously questioned. And if the defendant did no more than to see that the requirements of the health board were carried out, he was not individually liable.

Furthermore, if the defendant was confined to his own home with his wife and other members of his family, it was proper to keep the other members of the family secluded from the public under the resolution of the board of health.

Expert Opinions as to Nature and Manner of Injuries—Insanity and Suicide

The Supreme Court of Iowa says, in the case of Van Norman vs. Modern Brotherhood of America (121 N. W. R. 1080), that expert opinion as to the nature and results of a physical injury is and always must be of great value where a determination of these facts become material. But when the expert undertakes to describe the manner in which the injury was or must have been inflicted, his opinion borders on the realm of guesswork, and is little if any better than the opinion of the expert of average experience and judgment. For instance, if an expert testifies that because a bullet enters a person's temple, penetrating the skull, instead of glancing therefrom, the gun must therefore have been at right angles to the temple, the jury is justified in taking such testimony with a great degree of allowance, and bringing to bear on the problem their own common sense, knowledge, observation and experience. In the very nature of things the particular manner and method by which an injury has been inflicted cannot ordinarily be the subject of expert testimony.

In the absence of direct proof as to the manner of death, if the circumstances leave any room for doubt on the question, the law presumes that death is accidental or from natural causes, and not suicide. There is a general presumption against the theory of self-destruction. But it is not correct to say that if a person had any ailment affecting his mind, "however slightly," or was suffering from mental unsoundness in any degree, the presumption against suicide does not obtain. There are many varieties, phases, or degrees of mental unsoundness. It is not, the court believes, an established or admitted fact that persons in all phases or degrees of mental unsoundness have a tendency to suicide. Such persons are, of course, to a greater or less degree moved to acts and conduct of an abnormal or unnatural character rendering their peculiar condition a material and proper fact for the jury on the question of suicide, but to say that in every instance the ordinary presumption shall be given no weight is a rule which this court is unwilling to sanction.

Further Advances in Physiology. Edited by Leonard Hill, M.B., F.R.S. Cloth. Pp. 440, with illustrations. Price, $4.20. New York: Longmans, Green & Co., 1909.

This book represents the latest views of certain English physiologists on selected physiologic subjects. These views are the result of a study of the recent literature and of original work by the authors themselves on these problems. The book should be profitable especially to workers in physiology, as well as to all those who are interested in those problems in physiology which have particular application to clinical medicine or to pathology. Such a book gives a wider and more advanced view than could be obtained from ordinary text-books.

This volume follows "Recent Advances in Physiology" and is the second of a series of books on "Advances in Physiology." Mr. Hill expresses the hope that others of "More" and even "Further Advances in Physiology" may appear in the future. This second volume is similar to the first in the method of treating the subject-matter. The first dealt with problems of metabolism, secretion, and excretion, while the second deals with the problem of the circulation, respiration, the neuromuscular system, and with vision.

The first chapter of the book, by Benjamin Moore, is on "The Equilibrium of Colloid and Crystalloid in Living Cells." Moore says that the conception that the living cell is a mass of fluid, in which are dissolved crystalloids and the whole surrounded by a semi-permeable membrane or cell wall, is a highly pernicious conception in biology. He believes that the various organic and inorganic constituents of living cells are held in loose chemical combination with the bioplasm or proteins, and asserts that this latter conception is necessary to explain the action of drugs.

Hill in his article on "The Vascular System and Blood-Pressure" discusses the difficulties of the mere filtration and osmosis theory for the secretion of urine, formation of lymph edema, etc. It might be questioned whether Hill gives sufficient credit to Guthrie, along with Carrel, in opening up the field of experimental blood-vessel surgery; as well as whether he gives a correct conception of the technic employed by these investigators. In "The Mechanism of Respiration in Man," Arthur Keith gives his own work on respiratory movements. He endeavors to show that many problems in respiration are to be explained on a purely mechanical basis. M. S. Pembrey contributes the article on "The Physiology of Muscular Work," in which he discusses the influences of muscular work on the heart, respiration, the exchange of materials in the blood, and on the glandular system, concluding with its relation to fatigue.

"Some Chapters on the Physiology of Nerve," by N. H. Alcock treat of the physiology of nerve activity, regeneration, growth, fatigue, and the behavior of excised nerves. "Recent Researches on the Critical Localization of the Cerebrum," by J. S. Bolton, give some new ideas concerning Broca's localization of aphasia.

Martin Flack contributes the article on the heart, Thomas Lewis on the pulse and the events of the human cardiac cycle, and M. Greenwood on visual adaptation and color vision. Each of the authors, except Moore, has appended a bibliography to his article.

Manual of Chemistry. By W. Simon, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore, and Daniel Base, Ph.D., Professor of Chemistry in the Maryland College of Pharmacy. Ninth Edition. Cloth. Pp. 714, with 87 illustrations, 9 colored. Price, $3 net. Philadelphia: Lea and Febiger, 1909.

The ninth edition of this well-known manual preserves the plan and characteristics that have won for it the approval of teachers of chemistry. The most important changes are found in the considerations of physics and of theoretical chemistry and in the department of organic chemistry. The colored plates illustrating the various color reactions form a prominent and useful feature of this text-book.

Minor and Operative Surgery Including Bandages. By Henry R. Wharton, M.D., Surgeon to the Presbyterian Hospital. Seventh Edition. Cloth. Pp. 657, with 555 illustrations. Price, $3.00. New York and Philadelphia: Lea & Febiger, 1909.

This very practical handbook has been brought well up to date in the present edition. Those who want a compact manual on the subject will find Wharton's book most satisfactory.

The Sexual Disabilities of Man. By Arthur Cooper, Consulting Surgeon to the Westminster General Dispensary. Cloth. Pp. 184. Price, $1 net. New York: Paul B. Hoeber, 1909.

The subject is discussed under the two general heads, sterility and impotency. The chapter on sterility accurately describes the various pathologic changes producing this condition. The same may be said of the chapter on microscopy of semen, which is especially good in the description of the changes occurring in the spermatozoa themselves. Treatment is well considered, but a fuller description of vasoepididymostomy might have been given. The chapter on impotency begins with a short lucid description of sexual physiology, followed by the pathology, etiology and treatment. The advice has been given frequently to neurotic patients to take a long sea voyage. Dr. Cooper, very judiciously, we think, warns against such a course unless the patient be provided with proper companionship and supervision. Such patients tend to isolate themselves from society; they should be encouraged to mingle with others, thus getting their thoughts away from themselves. The book is scientific and happily free from all obscure and salacious references so common among writers on these subjects.

The Practical Medicine Series. Under the General Editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School. Vol. VI., General Medicine. Edited by F. Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, M.D., Professor of Medicine, Illinois Postgraduate Medical School. Cloth. Pp. 345, with illustrations. Price, $1.50; or $10 the series of 10 volumes. Chicago: The Year-Book Publishers, 1909.

This volume deals with the general infections not treated in Volume 1 and with the diseases of the abdominal organs. The selection of material covers a wide range of medical literature. The abstracts are so arranged as to afford a systematic view of each subject. Much attention is given to the results of physiologic investigation. Comparatively little of the individual experience of the editors appears in this volume except as incorporated in the general remarks. Occasional errors have crept into the work. We note that the figure illustrating acute dilatation of the stomach is credited by a typographical error to Broadhurst instead of Borchardt. The book contains a good account of the year's advance.

A Text-Book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and [illegible] Rational Basis. By Hobart Amory Hare, [illegible] Therapeutics and Materia Medica in the [illegible] of Philadelphia. Thirteenth Edition. [illegible] engravings and 4 colored plates. Price, $4.00. Philadelphia: Lea and Febiger, 1909.

This well-known text-book has been again revised to meet the needs of the practitioner, especially by incorporating information with regard to some of the newer remedies and some of the newer methods of therapy. The local use of magnesium sulphate for relief of pain and inflammation, the Lenhartz method of treating gastric ulcer and Murphy's treatment of peritonitis are examples of these newer methods. A number of illustrative prescriptions have been added. These modifications serve to keep the book well abreast of therapeutic progress.

Practical Gynecology. A Manual for Nurses and Students. By Netta Stewart, Sister in the Gynecologic Wards of the Royal Infirmary, Edinburgh, and James Young, M.B., F.R.C.S.E., Clinical Tutor in Surgery and Late Resident Gynecologist, Royal Infirmary, Edinburgh. Cloth. Pp. 327, with illustrations and plates. Price, $2.00, net. New York: William Wood & Co., 1909.

This volume (a second and enlarged edition) is prepared primarily for the use of nurses and medical students and describes the technic of examination and minor manipulations, such as irrigation, introduction of catheter and the preparation of the patient for operation. The book is well suited to its purpose and is abundantly illustrated.

Text-Book of Anatomy and Physiology for Nurses. Compiled by Diana Clifford Kimber, Graduate of Bellevue Training School. Third Edition, Revised by Carolyn E. Gray, R. N., Assistant Superintendent, New York City Training School for Nurses. Cloth. Pp. 421, with illustrations. Price, $2.50. New York: The Macmillan Co., 1909.

This is one of the most practical text-books of the kind on the market. All superfluous matter is eliminated and merely the essential facts stated. The illustrations are good. Particularly valuable is the glossary at the end of the book, which not only defines a word, but gives the derivation as well.

Medicolegal

Admissibility of Testimony as to Result of Investigations Conducted by Several Persons

The Court of Appeals of Maryland says, in the case of Buck vs. Brady (73 Atl. R. 277), that a few days after a dog was killed its head was taken to the Pasteur Institute, in Baltimore, where certain tests were made to discover if the dog had been afflicted with rabies or not. Two physicians from the institute testified that from their investigation of the head, the animal had hydrophobia at the time it was killed. A motion was made to strike out that testimony on the ground that all the work of making the experiments at the institute was not done by one person, but that different parts of the process of investigation were performed by different members of the staff employed there, and that, therefore, the witnesses' opinions were based on hearsay. But the investigation appeared to have been scientifically and carefully made according to the established system in vogue at the institute. All the physicians who took part in the experiments testified as to the parts performed by them, respectively, thus making a complete chain of investigation, and the entries in the record books and on a card label were admitted in evidence in connection with the testimony of the witnesses. Under such circumstances the court thinks the testimony on the result of the experiments was admissible.

Admissibility of Evidence of Declarations of Pain—Admissibility of Evidence of Physician Employed to Examine So as to Testify

The Supreme Court of Mississippi says, in Mississippi Central Railway Co. vs. Turnage (49 So. R. 840), a personal injury case brought by the latter party, that declarations of present pain and suffering, no matter to whom made, are admissible as original evidence in all inquiries where pain and suffering constitute the question involved. Of course, there may be exceptional instances wherein such declarations would be rejected, such as, for instance, where one had been employed to make an examination of an injured party for the express purpose of making a witness of the person making the examination; but the general rule is as above stated. Declarations made by an injured party, narrating the cause of the injury, or narrating past pain and suffering, do not come within the rule, and, being hearsay, cannot be testified to by the party to whom made, to be used either as an original evidence or to bolster up the testimony of the injured party.

The admissibility in evidence of declarations and expressions of present pain and suffering is not dependent on whether or not they constitute a part of the res gestae (immediate circumstances of the case). Nor does time play any part in determining whether or not they are admissible, so long as the declarations and exclamations are confined to existent pain and suffering. Whether this character of evidence be classed as an exception to hearsay or as independent and original evidence, its admissibility is beyond question.

Of course, even though a physician may be employed for the express purpose of examining a person who has been negligently injured, in order that he may testify, such fact does not disqualify the physician from testifying as to the injury and extent of it gathered from the examination alone; but this fact may be considered by the jury as affecting the value of the testimony. The disqualification in such case extends only to the statements made by the injured party to the physician of pain and suffering.

President of Board of Health Not Personally Liable for Quarantine

The Supreme Court of Iowa says that the case of Kirby vs. Harker (121 N. W. R. 1071) was brought to recover damages for the restraint of the plaintiff, in being quarantined for smallpox. The defendant was at the time, as mayor, president of the local board of health. A rumor having reached him that the plaintiff was sick, he went to see him; then sent the health physician, and, on his reporting that it was a case of smallpox, notified a physician who was a member of the state board of health. The latter, while making his examination, told the plaintiff that he diagnosed his case as smallpox, and, in answer to an inquiry as to what was to be done, suggested that he remain in his drugstore with the doors locked until evening, and then go to his home and submit to quarantine. This the plaintiff agreed to do, which the physician reported to the defendant, who called a meeting of the local board of health. In the report to the board it was erroneously stated that the plaintiff had already been quarantined by the defendant, and a resolution was passed approving the quarantine so reported, and that the chairman of the board should quarantine all directly exposed persons.

The court holds that a verdict was properly directed for the defendant. While the record of the board of health recited, as stated, that the plaintiff had already been quarantined, it was shown that there was no restraint until after the board of health had officially directed the quarantine of all suspects, and notice thereof had been served on the plaintiff. If he remained secluded from his neighbors before service of the notice, it was because of his agreement with the member of the state board and was purely voluntary, and hence no liability could be predicated thereon.

In the light of the record before the court it must be held that when the quarantine was finally established and the plaintiff's liberty restrained, it was in pursuance of the formal direction of the board of health, and not on the individual authority of the defendant. Such being the case, the question of a written notice was wholly immaterial. It is evident from section 2568 of the Iowa Code that written notice is only necessary when the mayor acts without authority from the local board of health, and that it is not necessary to confer jurisdiction on such board. That the board of health had the power to act, and that its action was legal, could not be seriously questioned. And if the defendant did no more than to see that the requirements of the health board were carried out, he was not individually liable.

Furthermore, if the defendant was confined to his own home with his wife and other members of his family, it was proper to keep the other members of the family secluded from the public under the resolution of the board of health.

Expert Opinions as to Nature and Manner of Injuries—Insanity and Suicide

The Supreme Court of Iowa says, in the case of Van Norman vs. Modern Brotherhood of America (121 N. W. R. 1080), that expert opinion as to the nature and results of a physical injury is and always must be of great value where a determination of these facts become material. But when the expert undertakes to describe the manner in which the injury was or must have been inflicted, his opinion borders on the realm of guesswork, and is little if any better than the opinion of the expert of average experience and judgment. For instance, if an expert testifies that because a bullet enters a person's temple, penetrating the skull, instead of glancing therefrom, the gun must therefore have been at right angles to the temple, the jury is justified in taking such testimony with a great degree of allowance, and bringing to bear on the problem their own common sense, knowledge, observation and experience. In the very nature of things the particular manner and method by which an injury has been inflicted cannot ordinarily be the subject of expert testimony.

In the absence of direct proof as to the manner of death, if the circumstances leave any room for doubt on the question, the law presumes that death is accidental or from natural causes, and not suicide. There is a general presumption against the theory of self-destruction. But it is not correct to say that if a person had any ailment affecting his mind, "however slightly," or was suffering from mental unsoundness in any degree, the presumption against suicide does not obtain. There are many varieties, phases, or degrees of mental unsoundness. It is not, the court believes, an established or admitted fact that persons in all phases or degrees of mental unsoundness have a tendency to suicide. Such persons are, of course, to a greater or less degree moved to acts and conduct of an abnormal or unnatural character rendering their peculiar condition a material and proper fact for the jury on the question of suicide, but to say that in every instance the ordinary presumption shall be given no weight is a rule which this court is unwilling to sanction.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

October 30

1 *Relief of Urinary and Genital Conditions Through Surgery of the Seminal Vesicles. E. Fuller, New York.
2 Clinical Varieties of Periodic Drinking. P. Bailey, New York.
3 *[illegible] of the Lungs? T. G. Mc-
4 [illegible] and Feeble-Minded Children.
5 [illegible]. R. W. King, Las Animas, Colo.

1. Relief of Urinary and Genital Conditions.—Fuller finds that many cases of urinary and genital disease may be cured by treatment of the seminal vesiculitis that exists. For this purpose he employs stripping of the seminal vesicles through the walls of the rectum, by the finger. He places the patient in the knee-elbow position, with the knees well spread out, when surgical interference is necessary, and makes incisions along the ischia, connected by a transverse incision. The vesicles are opened, cleaned out, and drainage used until healing has occurred. The patient is under treatment for about three weeks, two of them in bed. No tissues are removed, simply drainage applied, and there is no danger to the sexual functions; they are rather preserved than injured by the procedure. Fuller has done this operation 126 times without a death. In all but 10 cases the cure was complete.

3. Lobar Pneumonia Inflammation of Lungs.—McConkey believes that pneumonia is not an inflammation of the lungs, but a manifestation of a general infection due to the pneumococcus. It is a bacteriemia, and the localization in the lungs is not the primary trouble, and is not a process of inflammation, but a secondary process in sequence and in importance.

Boston Medical and Surgical Journal

October 28

6 The Fruits of Medical Research with the Aid of Anesthesia and Asepticism. C. W. Eliot, Cambridge, Mass.
7 *Acute Gonorrheal Epididymitis Treated by the Method of Bier. J. D. Barney, Boston.
8 The Opsonic Treatment of Pyorrhea Alveolaris. T. C. Beebe, Boston.
9 [illegible] lical Literature. F. H. Garrison,
10 *[illegible] ce. F. E. Leslie, Andover, Maine.
11 *[illegible] M. H. Rogers, Boston.
12 [illegible]: Diagnostic Classification of the Adult Foot. H. O. Feiss, Cleveland, Ohio.

7. Acute Gonorrheal Epididymitis.—For the ambulatory treatment of gonorrheal epididymitis, Barney considers the method of Bier the most valuable at our command. There are occasional failures, as with everything else, but its ease of application, simplicity and the excellent results should recommend highly its wider use.

10. Epidemic of Catarrhal Jaundice.—While he has always regarded catarrhal jaundice as sporadic or secondary to some other diseased condition of the hepatic or digestive systems, Leslie now regards it as an infection probably through the breath, or other excretions. He saw 135 cases in six months.

11. Relaxed Knees in Children.—This condition, according to Rogers, is most frequently seen in children between the ages of 3 and 5 years who are often fairly large for their age, and are well developed, and very well nourished, except that their muscles may not be very firm, and they may have a good deal of fat tissue. Occasionally, children with relaxed joints are thin and poorly nourished and underdeveloped. Children who have deformities due to rachitis often develop a similar condition of joint strain, but the large number of these cases show no evidence of rachitis, and it is not an etiologic factor. The majority of cases are from families of good circumstances rather than in the foreign element, largely perhaps, because more attention is paid to symptoms which are not severe, and advice is sought because the child tires easily and is restless at night. On physical examination the child is found well nourished and a little above the average weight, but its musculature is not firm. The standing attitude is characteristic in a well-marked case. The condition of the knees is the most prominent feature. When the child stands at rest there is a slight knock-knee and [illegible] hyperextended position. One knee may [illegible] position, but when the weight of the body [illegible] knee-joint will spring backward. The position of the feet is more pronated than normal, and the scaphoid is prominent and low. In most of the cases, especially in a well-marked case, there is a good deal of lordosis of the lumbar spine and a prominent abdomen, and the shoulders are generally rounded and the head is held forward. The spinal muscles are prominent and sometimes held in spasm. There is appreciable laxity of the knee-joint and in all cases it is possible to obtain lateral motion.

By Arthur Cooper, Consult- … Dispensary. Cloth. Pp. … Hoeber, 1909. … general heads,

If careful attention is paid to increasing the rest periods of the child, so that at night the whole body is not fatigued, the acute symptoms, such as pain and the restlessness during sleep, are usually alleviated. The diet should be carefully regulated and general hygienic treatment should be undertaken in order to strengthen the muscles and to put the child into better physical condition. It is not necessary to use any retentive apparatus for the knees unless the knock-knee is pronounced, because such apparatus tends to prevent the strengthening of the muscles. But occasionally it is necessary to apply simple knock-knee braces, to be worn part of the time. The pronation of the feet is best treated by raising the inside edge of the heel from 3/16 to 1/4 inch, and if the foot is not thus held in good position, a light plate or felt pad on an inner sole may be used. If possible, it is better to depend entirely on shoeing, so as not to interfere with the development of the muscles of the foot. It is more difficult to prevent the hyperextension of the knees. Most of the children wear spring-heeled shoes, and by putting on heels from ½ to 1 inch in height, the child is tipped forward and is compelled to stand with the knees slightly flexed, and this makes it more difficult to hyperextend the knees. The knee should be stretched by daily manipulation, grasping just above and below the joint, and bending the knee outward, while it is extended, several times morning and night, up to the point of causing pain to the child. It is not possible to correct the knock-knee, nor to make the joint firm in a short time, but it is possible to prevent more deformity, and gradually the joints will regain their tone, especially if the general condition of the child is improved.

New York Medical Journal

October 30

13 *Gastric Ulcer in the Young. A. Jacobi, New York.
14 *Etiology and Symptomatology of Peptic Ulcers. C. G. Stockton, Buffalo.
15 *Clinical and Pathologic Significan[illegible] Suppurative Otitis. A. B. Duel and [illegible]
16 Combined Direct and Indirect [illegible] R. Guiteras, New York.
17 *Intravenous Injections of Mercury. W. F. Bernart, Chicago.
18 Diagnosis of Renal Tuberculosis. A. P. Condon, Omaha.
19 New Treatment of Locomotor Ataxia. A. Heym, Chicago.
20 Observations and Statistics on 60,000 Labors, Occurring in the New [illegible] Markoe, New York.
21 Herpes [illegible] the First Division of the L[illegible]
22 Patholog[illegible] on th[illegible] A. S. [illegible]

13. Gastric Ulcer in the Young.—Jacobi says that the anatomy of gastric ulcer and the principles of its treatment are in the main essentially the same in all periods of life.

14. Etiology of Peptic Ulcer.—Stockton regards as the most interesting and probably the most important recent contribution that of Wienland, who maintains that there is formed in the gastric mucosa an antibody, an antipepsin, which opposes the digestive action of the acid gastric juice. Wienland holds that, for some unknown reason, there occurs, in certain areas of the gastric mucosa, a deficiency of these antibodies and that the stomach, thus unprotected, is readily injured by the corroding effect of the gastric secretion.

15. Bacteriemia in Suppurative Otitis.—Duel and Wright made cultures from 57 patients, 55 ear cases, and 2 frontal sinus cases. In some of the positive cases, one or two repeated cultures were made to confirm the first. Owing to the difficulty in making them, cultures in infants and small children were not attempted. At first only patients just operated on, or about to be operated on, for mastoiditis were examined. In 42 of these this technic was adopted:

[illegible] from the median vein was trans- [illegible]eyer flask containing 150 c.c. of broth [illegible]th or 1 per cent. dextrose) and was then Admissibility of thirty-six hours at 37 C. It was then thoroughly shaken, its neck well flamed off, and 15 c.c. of the contents poured out into a previously sterilized centrifuge tube. This tube full of blood broth was then immediately centrifuged for fifteen or twenty minutes, the supernatant liquid poured off, and agar slants inoculated from the sediment. In these 42 cases, 15 positive cases of bacteriemia were demonstrated. In a second series of 15 cases the blood was mixed with an ammonium oxalate solution to prevent coagulation, and immediately plated. By this method one positive case was demonstrated.

17. **Intravenous Injections of Mercury.**—The 9,838 injections included in Bernart's report were given in 422 cases. Only 22 patients completed a full term treatment, namely about eight courses given during a period of about two years, the intervals between these periods being devoted to some other form of treatment; 22 patients averaged 108 intravenous injections each; 86 of the patients received two or more courses, averaging 32 injections for each individual; 314 patients received only one course, the average being 15 injections for each patient. The mercuric chlorid was injected 9,446 times, the cyanid of mercury 327 times, the biniodid of mercury 33 times, and mercury ethylenediaminesulphate (sublamine) 32 times. Of the mercuric chlorid the average dose was 0.02 gram (4/15 grain), the minimum single dose of this salt was 0.0032 gram (1/20 grain) and the maximum was 0.0455 gram (7/10 grain). The average dose of the cyanid of mercury was 0.01 gram (1/6 grain), of the biniodid of mercury 0.013 gram (1/5 grain) and of the sublamine 0.016 gram (1/4 grain).

A simple phlebitis followed after 208 of the injections. An obliterating endophlebitis occurred after 48 of the injections, marked renal irritation occurred in only 3 of the 422 cases and was undoubtedly due to the preparation of mercury used, namely, the cyanid, which has a reputation of being a renal irritant. Among the 422 cases, well-marked bloody diarrhea occurred in 7 patients and lasted from two to twenty-four hours. The smallest amount which ever produced a severe bloody diarrhea was 0.0097 gram (3/20 grain) of the mercuric chlorid given during twenty hours. A marked intestinal tenesmus with or without a simple diarrhea occurred after less than 1 per cent. of the injections and exclusive of the inconvenience produced at the time was a matter of no moment. It is a noteworthy fact that all the patients having severe simple or bloody diarrhea of sudden onset were under the influence of some saline cathartic taken either shortly before or after the injection was given. Although unable to draw any positive conclusions as to the exact curative value of the intravenous medication, it can, however, be emphatically stated, says Bernart, that a single course of such injections carries more effective and therapeutic value than can be obtained in the same time from any other method of medication. When active syphilis is the factor to be considered quick and favorable results are produced.

19. **Tabes Dorsalis.**—Heym is of the opinion that the destruction of the nerve tissue is not due alone to the toxins circulating in the blood, but to the toxins contained in all the other fluids of the system. Therefore, the toxins in the lymph and in the cerebrospinal fluid are also concerned in this destructive action. The cerebrospinal fluid appears to be the active and destructive element in tabes in consequence of its toxic condition, as it seems to be very probable that this fluid, perhaps on account of its slow circulation, is the more saturated with toxins than the blood or the lymph. Heym believes that the theory of the destructive influence of the cerebrospinal fluid on the different nervous elements explains in a surprisingly easy manner the pathologic changes of tabes. If the toxins of the liquor cerebrospinalis are the destructive agents in tabes, it is a problem of the therapy to try to destroy or neutralize these toxins where they are most abundant. The most simple way to produce a result of this kind is to inject into the subarachnoidal space a substance that has the effect of eliminating or neutralizing, perhaps, the toxins without irritating the brain and the spinal cord.

Among the substances which favor the destruction of toxins without having an injurious effect on the nervous system cacodyl preparations seem to be the best ones, but Heym's experiments are not yet completed and he deems it not improbable that a remedy still more specific will be found. He has used exclusively sodium cacodylate put up in sterilized vials, each vial containing 0.05 arsenic in 1 c.c. To avoid all disagreeable effects, he never drains off any cerebrospinal fluid. He has always performed the injection by putting the patient on the side; after the injection the patient must retain the recumbent position from one to two hours. Heym injects 1 c.c. every second or third day.

Nineteen patients have been treated in this manner, twelve cases of tabes and seven cases of mental paralysis. None of the patients showed after the injection any of the symptoms commonly found after lumbar puncture. On the contrary, the condition of the patients after the injections was always very good. The beneficial effect of the injection appeared promptly after the third or fourth injection in every case with one exception. The pains originating from the roots were greatly reduced and finally disappeared almost entirely.

Lancet-Clinic, Cincinnati

October 23

23 Local Versus General Anesthesia. B. M. Ricketts, Cincinnati.
24 Diagnosis in Suspected Joint Disease. C. E. Caldwell, Cincinnati.

Virginia Medical Semi-Monthly, Richmond

October 22

25 Influence of Factory Inspectors on Public Health. H. B. Wood, Philadelphia.
26 Mercury—Physiology and Therapy. Is It a Specific in Germ, Toxic and Degenerative Diseases? H. E. Jones, Roanoke.
27 Examination and Diagnosis of Diseases of the Anus and Rectum. E. H. Terrell, Richmond.
28 Pellagra—Clinical Study and Report of Fourteen Cases. W. F. Drewry, Petersburg.
29 Relation of the Medical Profession to the *State Board of Health.* H. S. MacLean, Richmond.

Northwestern Lancet, Minneapolis

October 15

30 *Pulmonary Tuberculosis Among Scandinavians. G. D. Head, Minneapolis.
31 Surgical Tuberculosis—Tuberculin—Report of Cases. A. E. *Benjamin, Minneapolis.*
32 Surgical Treatment of Roots of Loosening Teeth. T. B. Hartzell, Minneapolis.
33 Physician's Investments: City Bank Stocks. F. A. Chamberlain, Minneapolis.
34 Case of Spina Bifida. W. H. Aurand, Minneapolis.

30. **Pulmonary Tuberculosis Among Scandinavians.**—From a study of the death records of pulmonary tuberculosis among the Scandinavians in the state of Minnesota and its chief city, and the comparison of the same with those of the registration area of the United States, Head concludes that:

1. Pulmonary tuberculosis shows a higher mortality among the Scandinavians than in any other race of our foreign population except the Irish.
2. This *mortality is lower in Minnesota than in the registration* area in the United States.
3. The death-rate among the foreign-born Scandinavians is higher than among the native-born Scandinavians.
4. The death-rate among the native-born Scandinavians is about twice that of the native-born of native mothers.
5. The reason why Minnesota and its chief city, with a large Scandinavian population, have such a *low death-rate* from pulmonary tuberculosis, is, in part at least, because of the low death-rate among the native-born of native parentage.

New York State Journal of Medicine, New York

October

35 Value to the Family Physician *of a Knowledge* of Orthopedic Surgery. W. R. Townsend, New York.
36 The Romantic Movement in Medicine. P. Scott, Brooklyn.
37 The War of the Cities Against *Tuberculosis.* C. F. Burrows, Syracuse.
38 Microcephalus with Encephalocele. C. C. Zacharie, White Plains.
39 [illegible] icer. C. L. Gibson, New York.
40 [illegible] *Small Hospital.* W. E. Ford, Utica.
41 [illegible] J. M. Winfield, Brooklyn.
42 [illegible] which May be Mistaken for Appendicitis. W. C. Wood, Gloversville.
43 The Cry of the *Unborn.* I. D. Steinhardt, New York.
44 [illegible] *and Joint* Tuberculosis. E. F. [illegible]
45 [illegible] Eighty-two Operations for In- [illegible] *Necessity for* Resection of the [illegible]ypertrophied. J. M. *Bachelor,* [illegible]
46 Leukemia—Comment on *Report by Dr.* Henry G. Webster. A. L. Benedict, Buffalo.

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Chicago Medical Recorder

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61 Contemporary Workmen's Compensation for Industrial Injuries. W. H. Allport, Chicago.
62 Placenta Prævia. F. Werner, Chicago.
63 *Method of Performing Abdomino-Perineal Excision for Carcinoma of the Rectum and of the Terminal Portion of the Pelvic Colon. W. E. Miles, Brompton, England.
64 Poliomyelitis. G. C. Shockey, Chicago.
65 Perirectal Abscess. C. J. Drueck, Chicago.

63. Published in *The Lancet*, Dec. 19, 1908.

Journal Michigan State Medical Society, Detroit

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66 *The Physician: His Duties and Relations to the Profession and to the Public. A. I. Lawbaugh, Calumet.
67 The Nature and Treatment of Gunshot Wounds. F. B. Walker, Detroit.
68 The Frontal Sinus. A. J. Abbott, Albion.
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66. Abstracted in The Journal, Sept. 25, 1909, p. 1047.

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58. **Action of Adrenalin on the Pulmonary Vessels.**—The effect of adrenalin on the pulmonary vessels was studied by Wiggers by three methods: (1) By recording changes in pulmonary arterial and venous pressures; (2) by estimating changes in the amount of fluid perfused through the lungs; (3) by recording the contraction of a ring of pulmonary artery. He found that because the simultaneous influence of adrenalin on the heart cannot be eliminated, it is not possible to determine by pressure measurements in the pulmonary circuit whether or not adrenalin actively affects the pulmonary vessels. Adrenalin dissolved in a solution of the same viscosity as that with which the organ is perfused causes a constriction of the pulmonary vessels. If the adrenalin is dissolved in a solution of less viscosity than the perfusion liquid, the viscosity change is sufficient to counterbalance, or even overbalance the adrenalin action unless the doses used are very large. The increased outflow and fall in perfusion pressure does not indicate an active dilation but a viscosity change.

59. **Crystalline Strophanthin.**—Bailey advises that the daily dose should not exceed one-half milligram of the crystalline strophanthin, as a rule, and under no circumstances should this dose be repeated in twenty-four hours, except after careful study of the effects on the circulation. Crystalline strophanthin may be given intramuscularly or intravenously. It should be dissolved in normal saline solution in the proportion of 1 to 4,000 for intramuscular injections and from 1 to 6,000 to 1 to 8,000 for intravenous use. It is a valuable cardiac stimulant when compensation is broken in chronic interstitial myocarditis or in any form of chronic valvular disease, but it should be used in this way only in emergencies. It is not suited for continuous use, and when continued stimulation is desired he states that digitalis should be employed.

60. **Physostigmin in Poisoning by Magnesium Sulphate.**—A careful research has convinced Joseph and Meltzer that physostigmin is capable of efficiently antagonizing some of the toxic actions of magnesium salts. It may directly serve as a life-saving agent against fatal poisoning by magnesium salts, if the dose of the latter employed be not too large. Physostigmin overcomes the toxic effects of magnesium essentially by the aid it renders to the depressed function of respiration. This aid is of three-fold origin. It stimulates the respiratory center; it antagonizes the "curare-like" action of the magnesium-ion on the nerve endings of the pneumogastric nerves within the lungs. Physostigmin antagonizes also the magnesium action on the peripheral nerve endings and probably also the action on muscle tissue. The extent of this antagonism, however, seems to be not very significant.

Chicago Medical Recorder

October

61 Contemporary Workmen's Compensation for Industrial Injuries. W. H. Allport, Chicago.
62 Placenta Prævia. F. Werner, Chicago.
63 *Method of [illegible] ...cision for Carcinoma of [illegible] Portion of the Pelvic Col[illegible] ...land.
64 Poliomyelitis [illegible] ...icago.
65 Perirectal A[illegible] Chicago.

63. Published in *The Lancet*, Dec. 19, 1908.

Journal Michigan State Medical Society, Detroit

October

66 *The Physician: His Dut[illegible] Profession and to the Public. A. I. [illegible]
67 The Nature and Treatm[illegible] F. B. Walker, Detroit.
68 The Frontal Sinus. A. J. Abbott, Albion.
69 *Facts on Blood-Pressure. C. B. Fulkerson, Kalamazoo.
70 Prostatectomy. J. J. Reycraft, Petoskey.
71 Puerperal Eclampsia. J. O. Groos, Escanaba.

66. Abstracted in The Journal, Sept. 25, 1909, p. 1047.

69. **Blood-Pressure and Shock.**—Some men have shown the uselessness of strychnia and digitalis, because the vasomotor center will not respond to any stimulation centrally or peripherally. Fulkerson says that saline transfusions come nearer to solving the difficulty, but frequently prove futile, while adrenalin, intravenously in dosage of 1:50,000 or 1:100,000, with addition of atropin, seems to net the greater majority of successes.

United States Naval Bulletin, Washington, D. C.

October

72 The Hospital Camp at Norfolk, Va. P. A. Lovering, U. S. Navy.
73 *Teaching of Tropical Medicine Outside of the Tropics. E. R. Stitt, U. S. Navy.
74 Ethyl Chlorid as a General Anesthetic. L. W. Johnson, U. S. Navy.
75 Chronic Nephritis in Recruits. B. F. Jenness, U. S. Navy.
76 The Investigation of Samoan Conjunctivitis. P. S. Rossiter, U. S. Navy.
77 Points on Embalming Practicable on Board Ship. C. Schaffer, U. S. Navy.

73. Abstracted in department of Society Proceedings, in The Journal, May 8, 1909; published also in the *New York Medical Journal*, July 24, 1909.

Journal Missouri State Medical Association, St. Louis

October

78 *Fractures. A. J. Campbell, Sedalia.
79 *Anesthesia. W. E. Leighton, St. Louis.
80 *Late Effects of Chloroform. W. W. Stevens, Kansas City.
81 *Action of Scopolamin-Morphin on the Heart, Liver and Kidneys. C. M. Nicholson, St. Louis.
82 Ocular Diseases Due to Systemic Influences. W. H. Minton, St. Joseph.
83 [illegible] W. R. Littell, Tarkio.
84 *[illegible] M. G. Seelig and E. P. Lyon, St. Louis.
85 [illegible] Tarkio.
86 Astasia-Abasia. J. D. Brummall, Salisbury.
87 Dry Gangrene. G. W. Whiteley, Albany, Mo.

78. **Fractures.**—Speaking of operation on ununited fractures, Campbell says that the refreshening of the ends of the fragments is a necessary step in the technic. But, he says, there is yet reasonable doubt regarding the advisability of this operation, except in special cases. The difficulty in securing and maintaining proper adjustment of the fragments because of the lack of command of the inner portion, its porous character and low vitality, present obstacles to success that cannot be denied. The degree of shortening that follows successful results suggests an initial failure of reduction of the deformity or the maintenance in proper place, and bespeaks, in any event, a considerable amount of absorption at the seat of the fracture. A more extended experience is needed and a careful comparison of the favorable results by different methods of treatment is required before a final judgment can be rendered. In fact, the treatment of the fractures of the neck of the femur is gradually undergoing a change which may prove to be a very radical one.

79. **Anesthesia.**—Leighton discusses the subject of general anesthesia, with special reference to a consideration of the responsibility of the anesthetist to the patient, to the surgeon, and to the law. He says that in view of the fact that to administer an anesthetic with the minimum risk to the patient is all that a properly qualified and experienced man can attend to, and since the surgeon can only properly give attention to his share of the operation, it would seem reasonable that he should be absolved from any responsibility pertaining to the anesthetic, and the responsibility placed where it belongs, on the anesthetist.

80. **Late Effects of Chloroform.**—Stevens considers only the late effect of chloroform on the liver and the resulting hepatic syndrome and pathology. There is marked similarity in the symptoms exhibited in all of the reported cases. The patient usually makes what is apparently a good recovery from the anesthetic, and seems to be doing well. Suddenly the marked cerebral symptoms appear; he becomes anxious, irrational, restless, with sudden and great fright, piercing cries, shrieks, grinding of the teeth, tossing and struggling, delirium followed by apathy, and then coma; irregular or dilated pupils, tremor; the sweet acetone odor is present in the breath; vomiting of "coffee-ground" vomitus; absence of fever until just before death, when it may reach 104 degrees F.; jaundice of varying degrees, flushed face, air hunger as shown by deep breathing and bright red mucous membranes, Cheyne-Stokes respiration, cold extremities, weak, rapid pulse, collapse and then death.

The autopsies done on patients dying with the above symptoms after chloroform, almost invariably show the same macroscopic and microscopic changes, which are: pale and faun-colored liver, fatty degeneration or infiltration of the liver, the various changes of nephritis in the kidney, fatty degeneration of the heart, and fatty degeneration of the muscles of the lower limbs. The most important of these are those found in the liver—fatty degeneration and necrosis of the liver cells; autolytic disintegration of the necrotic cells and fatty degeneration of the cells which are not necrotic. The capillaries and blood-vessels do not seem to be involved, there is no thrombosis, and no inflammation or proliferative action. This condition is essentially an hepatic toxemia and the other changes are secondary in importance to those in the liver.

81. The principal points in this article are given in a similar article by this author in The Journal, April 3, 1909, p. 1096.

84. **Shock.**—Seelig and Lyon try to show explicitly that the peripheral vessels are contracted, and implicitly that not all the vasomotor centers can be exhausted. The complexity of the vasomotor apparatus, with its multiplicity of centers, and the seemingly independent action of many of these centers, renders it impossible to frame a satisfactory theory based on their results. They claim, however, that if their work stands the test of confirmation, then the doctrine that shock is due to vasomotor exhaustion must be revised.

Bulletin of the American Academy of Medicine, Easton, Pa.

October

88 *Classification of Exceptional Children as a Guide in Determining Segregation. M. P. E. Groszmann, Plainfield, N. J.
89 *Necessity of Expert Medical Inspection of Public Schools. A. R. Baker, Cleveland, Ohio.
90 *The Leakage in Our Educational System. M. Bancroft, Haddonfield, N. J.
91 *Care of Exceptional Children by Children's Bureau of Philadelphia. J. P. Murphy and W. S. Cornell, Philadelphia.
92 *What Is Being Done for Backward and Mentally Deficient Children in the Public Schools of Philadelphia. L. A. Kirby, Philadelphia.
93 *What May Be Done for Exceptional Children by the Training of Speech and the Development of Language. G. Hudson-Makuen, Philadelphia.
94 *Value of the Nurse in the Public School. T. A. Woodruff, Chicago.
95 *Rational System of Medical Education Will Furnish Physicians Adequate for the Entire Field of Medical Practice. L. Connor, Detroit, Mich.

88, 89, 90, 91. Abstracted in The Journal, July 31, 1909, pp. 402, 403.

92, 93. Abstracted in The Journal, Aug. 7, 1909, p. 481.

94. Abstracted in The Journal, June 26, 1909, p. 2124.

95. Abstracted in The Journal, July 3, 1909, p. 70.

Therapeutic Gazette, Detroit

October

96 *Relation of Some of the Recent Advances in Cardiac Physiology and Pat[illegible] Hare, Philadelphia.
97 Treatment of [illegible] av, Philadelphia.
98 *Overdosage in [illegible] A. L. Benedict, Buffalo.
99 Methods Employed for Relief of Organic Stricture of the Urethra in the Genitourinary Surgical Department of the Jefferson Hospital (continued). O. Horwitz, Philadelphia.

96. **Cardiac Physiology and Pathology.**—Hare shows that cardiovascular stimulants are often given when vascular relaxants are really needed, and that more attention to the protection of the heart from unnecessary labor is advisable. If the physician will direct his treatment to the vessels, the heart will often be able to care for itself. Therefore, do not stimulate a heart to increased effort when the real object is to decrease its burden and to diminish the toxemia which is destroying its function.

98. **Overdosage in Treatment of Tuberculosis.**—With due allowance for light and drafts, Benedict says it is not obvious, *a priori*, why an enclosed veranda is necessarily superior to a well-ventilated bedroom. Again, unless it can be shown that the constant nasal (not buccal) breathing of cold air has some direct effect on the bacillus or indirect effect on the tissues or leucocytes, it seems questionable whether the artificial conservation of the bodily heat by clothing and rugs is

superior to an artificially warmed but pure atmosphere. It must also be questioned whether the almost total suppression of perspiration and dermal exhalation is advisable. The term overdosage is particularly applicable to the insistence on continuous outdoor or practically outdoor life, without regard to wind, rain, and excessive cold. Why exposure which a healthy individual would avoid should be necessary for the consumptive, Benedict finds it difficult to understand.

Southern California Practitioner, Los Angeles

October

100 [illegible] Tuberculous Patients. C. C. Brown-[illegible]
101 [illegible] Gastric and Duodenal Ulcer. C. D. [illegible]
102 [illegible]: Operation; Pulmonary Embolism. R. T. Bullard, Los Angeles.
103 Internal Obstruction from Peritoneal Bands. C. Van Zwalenburg, Riverside, Cal.

Interstate Medical Journal, St. Louis

October

104 Clinical Study of the Blood. A. J. Whiting, London.
105 Psychiatry. S. I. Schwab, St. Louis.
106 *Presence of Tubercle Bacilli in the Circulating Blood in Tuberculosis. A. E. Taussig, St. Louis.
107 *Physiology of Shock. M. G. Seelig and E. P. Lyon, St. Louis.
108 Syphilis of the External Eye. C. A. Wood, Chicago.
109 *Perforative Appendicitis Complicating Pregnancy. E. A. Babler, St. Louis.

106. **Tubercle Bacilli on Circulating Blood in Tuberculosis.**—Taussig tried Rosenberger's method on a large number of tuberculous patients in the St. Louis City Hospital, but with uniformly negative results. From a series of patients with relatively advanced tuberculosis, spreads were made according to Rosenberger's method and, in addition, the entire sediment from 5 c.c. or more of the venous blood was injected subcutaneously into the groin of a guinea-pig. The bacilli could not be found in a single case, while the guinea-pigs showed at no time any evidence of infection, and, when killed from 72 to 90 days after inoculation, showed no evidence of tuberculosis. Taussig says that it is evidence that if the bacilli can be found microscopically in a spread, the inoculation of a guinea-pig with an amount of sediment many times as great as that used for microscopic preparation could not fail to produce tuberculosis.

107. See Abstract 84.

109. **Perforative Appendicitis Complicating Pregnancy.**—Babler reports 3 cases, in 2 of which operation proved successful. He also reviews briefly a previous paper on the same subject published in The Journal, Oct. 17, 1908, p. 1310.

Albany Medical Annals

October

110 Present Status of Blood-Vessel Surgery. E. MacD. Stanton, Schenectady, N. Y.
111 Percutaneous Tuberculin Reaction of Moro. E. Corning, Albany.
112 Treatment of Suppurative Conditions of the Accessory Nasal Sinuses. C. F. Theisen, Albany.
113 Mastoiditis. A. J. Bedell, Albany.
114 Sinusitis of the Accessory Nasal Sinuses. A. Holding, Albany.
115 Need of Visiting and Certified Nurses. J. M. Mosher, Albany.

Woman's Medical Journal, Cincinnati

October

116 Common Diseases of the Eye and Their Treatment. L. A. Lane, Minneapolis.
117 Notes from My Obstetric Practice. A. R. Mattheson, Brooklyn, N. Y.
118 Progress of Electricity and Its Value to Medicine. I. M. Wilson, Columbus, Ohio.
119 Forensic and Clinical Aspects of Transitory Frenzy. H. C. B. Alexander, Chicago.
120 *Elongated Umbilical Cord. E. Braunwarth, Muscatine, Iowa.

120. **Elongated Umbilical Cord.**—Braunwarth reports a case of greatly elongated umbilical cord in a male infant weighing 8½ pounds. The cord was 90 inches long, and was wrapped four times around the neck, once around each shoulder, crossed over the back like suspenders, once around each hip and below each knee. The child was released and did well.

Dominion Medical Monthly, Toronto

October

121 Pathology of General Paralysis. E. Jones, Toronto.
122 Laparotomy for Tuberculous Peritonitis and Suprapubic Prostatectomy Three and One-Half Years Later. F. W. Marlow, Toronto.
123 Primary Carcinoma of Neck. F. A. Clarkson, Toronto.

Archives of Pediatrics, New York

October

124 *Position and Work of the American Pediatric Society Toward Public Questions. T. M. Rotch, Boston.
125 Spasmodic Stricture of the Esophagus. L. E. La Fetra, New York.
126 *Gastric Capacity of Infants. H. O. Mosenthal, New York.
127 *So-Called Casein Masses in Infants' Stools. L. F. Meyer, Berlin, and J. S. Leopold, New York.
128 Development of Dairy Hygiene. R. G. Freeman, New York.
129 Case of Salaam Convulsions. S. A. Agatston and I. Goldstein, New York.

124. Abstracted in The Journal, June 12, 1909, p. 1948.

126. **Gastric Capacity of Infants.**—Mosenthal claims that the gastric capacity of infants as measured postmortem or *intra vitam* is a false guide to the amount of milk that should be offered at each feeding. The quantity of milk given at each nursing should exceed the measured gastric capacity for a child of the corresponding age by a considerable margin. The interval between nursings should never be less than 2½ hours for breast-fed children, and 3 hours for bottle-fed. Infants fed according to these principles showed no signs of gastric dilatation during life nor on postmortem examination of 24 cases that died of marasmus. In infants exhibiting the symptoms of overfeeding, the size of each nursing is in many instances not at fault. The cause of such symptoms must also be sought in too short periods between nursings, in the improper dilution of milk, and especially in excessive fats.

127. **"Casein Masses" in Infant's Stools.**—Clinical observations and careful analyses have convinced Meyer and Leopold that the so-called casein masses cannot be considered undigested casein; the nitrogen of the feces and the nitrogen of the food bear no intimate relation to one another, and the appearance of the "casein masses" and even an increased amount of nitrogen in the stools do not point to a disturbance in proteid digestion.

Cleveland Medical Journal

October

130 Some Medicolegal Problems, from the Standpoint of the Attorney. A. Hadden, Cleveland.
131 Three Cases of Brens Mole (Hematomole). A. H. Bill, Cleveland.
132 Perineal Herpes in a Case of Pneumonia in a Child Eight Months Old. J. Phillips, Cleveland.
133 Diagnosis and Treatment of Eclamptic Toxemia; Vaginal Cesarean Section in the Pre-eclamptic Stage. A. J. Skeel, Cleveland.
134 Formaldehyd Poisoning. J. MacLachlan, Cleveland.
135 Modified Submucous Resection of the Nasal Septum. R. D. Fry, Cleveland.
136 Typhoid Fever Complicating Pregnancy. W. O. Ziemer, Cleveland.

American Journal of Physiology, Boston

October

137 Influence of Calcium on the Pupil and the Pupillomotor Fibers of the Sympathetic Nerve. J. Auer and S. J. Meltzer, New York.
138 *Certain Aspects of Carbohydrate Metabolism in Relation to the Complete Removal of the Thyroids and Partial Parathyroidectomy. F. P. Underhill and W. W. Hilditch, New Haven, Conn.
139 Integumentary Nerves of Fishes as Photoreceptors and Their Significance for the Origin of the Vertebrate Eyes. G. H. Parker, Cambridge, Mass.

138. **Carbohydrate Metabolism.**—Underhill and Hilditch summarize their investigations on metabolism after parathyroidectomy as follows: When thyroidectomy and partial parathyroidectomy have been performed on dogs, the presence of at least two intact parathyroids is sufficient to maintain life, health, and apparently normal control of the nutritional processes of the body for a long period of time. Contrary to the results obtained with thyreoparathyroidectomy, the above operation does not result in a lowering of the assimilation limit for dextrose introduced subcutaneously; nor could any evidence be obtained that this operation gives rise to an increase in urinary ammonia excretion similar to that resulting from complete thyreoparathyroidectomy. After an operation whereby one thyroid and three parathyroids were removed, there was observed a measurable diminution in the *sugar-assimilative* power of the organism.

Adrenalin chlorid, administered subcutaneously, in doses of 1 mg. or more per kilo of body weight, invariably causes a significant glycosuria in dogs deprived of both thyroids but retaining at least two parathyroids. These observations are not in harmony with those reported by Eppinger, Falta and Rudinger. Unlike the experience of Massaglia with young dogs, no evidences of myxedema were observed with full-grown animals (two dogs) even ten months subsequent to removal of the thyroids and partial parathyroidectomy.

Mississippi Medical Monthly, Vicksburg

October

140 Treatment of Tuberculosis in Mississippi. R. P. Wendel, Aberdeen.
141 Diagnosis and Treatment of Cystitis in the Male. S. A. Eggleston, Shell Mound.
142 Rheumatism in Children. W. P. Patterson, Beauregard.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

October 16

1 *Relation of Medicine to the Ancillary Sciences. S. West.
2 Operative Treatment of Cataract. A. E. J. Kister.
3 Venous Anesthesia. C. M. Page and S. G. MacDonald.
4 Epidemic of Enteric Fever, Probably Due to Infection by a "Carrier." H. Roscoe.
5 *Thyroidectomy and a Theory of Cancer Causation. W. Stuart-Low.
6 Fatal Endocarditis Occurring During Scarlet Fever. J. M. Clements.
7 Duodenal Fistula Cured by Operation. R. L. Knaggs.

1. **Medicine and Ancillary Sciences.**—According to West, the proper position of each of the ancillary sciences is side by side with medicine. They must all work loyally together in a common search after the truth. But if one must be pre-eminent it is surely medicine, which has the right to pre-eminence as the parent of them all. To speak of the clinician or physician as obsolete, effete, or an anachronism, is midsummer madness. The clinician, says West, is as necessary to the progress of medical science in the present day as the bacteriologist, physiologist, or pharmacologist. In fact, there never was a time when the mature experience and cool judgment of the practiced clinician was more necessary than now, to put brilliant but crude theories to the test, and in general to counteract the separatist tendencies of modern specialism. After all, the end and aim of all this work is to make the student a practical physician, an object which too often seems to be lost sight of in the controversies of rival educationalists. So much time is spent in preparing the student to be a physician that there is little or none left to make him one. In other words, so much time is spent on preliminaries that the practical clinical work is scamped. The result must be a less finished and complete article than such a curriculum would seem to promise. If each student could add to his curriculum a year of residence in a hospital as a house officer, without any examination to work for, he would obtain what is lacking. But all cannot have the advantage of hospital experience of this kind, even if they can afford the time and money. Instead of gaining practical experience in the wards while they are students, when mistakes do no harm and can be corrected, they have to learn it later in practice, where mistakes are serious to themselves and to their patients.

The remedy is to cut down the curriculum until the work required is not more than can be accomplished by the average man in the time allotted to it. Each preliminary subject must be pruned and all that is not essential ruthlessly cut out. The present muddle, for a muddle West claims it is, has largely arisen from the want of that control which medicine should exercise over the whole curriculum, preparatory as well as professional. The object is to make a man a physician, and the physicians themselves are the best judges of what is necessary for that purpose. The perspective of the medical curriculum has been lost. It can only be regained by medicine resuming the control over the whole medical curriculum, preparatory as well as professional. This control it has in theory but not in practice. The time has now come when in the interests of medicine and of the students that control must be resumed and effectively exercised.

5. **Thyroidectomy and Cancer.**—After years of careful observation of many cases of carcinoma and sarcoma in all stages, Stuart-Low has come to the conclusion, looking on the thyroid gland as the fly-wheel of body growth and metabolism,
that this organ is very liable to overwork, [illegible] the body
metabolism in this manner is liable [illegible] Skull.—Theve-
and that so the thyroid may ses the treatment. It is
origin and continue xpiore the wound under general anes-
views, he long had hat the fracture may be at some little
less complete excisic the wound of the soft parts. In some
as the best means of n assumed when nothing of the kind
factor in the diseased iable when the lesion is low and the
cases are reported in veloped, as the fracture may involve
to be no doubt that pi the sinus. Nervous symptoms, if
influence on these growency, and impairment of memory;
effect on the rate of growt on the part of the nervous sys-
ondary glands, too, seem to the presence of a fracture. If
cases there was a softening es slower or there is slight
were much less painful. In aploration of the wound is
relieved. The patients, instead o
doing before the operation, put decine, Paris
noted in all these cases was a distin *571-650*
the pulse. The second, third, and fifth logie, sérothérapies et
on at a much earlier date than the first 2.) G. Rosenthal.
would appear to be best to intervene as early as (L'appareil ves-
waiting until the patient is too low and weak.

British Medical Journal, London

October 16

8 Intermittent Closing of Cerebral Arteries. W. Russell.
9 Congenital Heart Affections. G. Carpenter.
10 Peroneal Type of Muscular Atrophy. J. R. Halliday and A. J. Whiting.
11 *Chronic Infantile Paralysis of Ten Years' Standing: Treatment: Result. F. Hernaman-Johnson.
12 *Determination of the Tubercle Bacillus in the Blood of Persons Suffering from Phthisis. A. M. Hewat and H. G. Sutherland.
13 *Influence of the Unsaturated Fatty Acids in Tuberculosis. O. T. Williams and C. E. P. Forsyth.
14 Angina Pectoris. Sir T. C. Allbutt and Sir L. Brunton.
15 Treatment of Tinnitus Aurium. T. Barr and R. Lake.
16 Association of Slight Abnormalities of the Auricle with Certain Forms of Deafness. H. E. Jones.
17 Etiology of Exostoses of the External Auditory Meatus. G. Jackson.
18 Extirpation of the Larynx Fitted with a New Vocalizing Apparatus. R. H. Woods.
19 Surgical Anatomy of the Tonsils. J. H. Neil.
20 The Labyrinthine Nystagmus Tests. D. McKenzie.
21 Treatment of Cicatricial Stenosis of the Larynx. H. L. Lack, V. Delsaux and D. B. Delavan.
22 Cancers of the Throat. R. H. Scanes-Spicer.

11. **Chronic Infantile Paralysis.**—Hernaman-Johnson says that chronic infantile paralysis of medium severity occurring in persons not yet of full growth should never be regarded as incapable of improvement, even when the condition is of many years' standing. Because the parents will not permit the surgeon to perform a simple and, to his mind, obviously necessary operation, he should not, therefore, throw up the case. It is his duty to do what he can for the patient by other means, thereby conserving the limb, and leaving the way open for surgical measures at some future date. As regards paralytic deformity below the knee, leg-irons and coil-springs are not the last word in supporting apparatus. Provided expense is not a first consideration, special boots can generally be devised to suit individual cases—boots which need not be a source of constant embarrassment to the sensitive girl patient approaching young womanhood. The fact that the patient has well-to-do and intelligent parents desirous of giving their child every chance, is no guarantee that everything possible has been done. Each case, no matter what the history, should be considered with an open mind.

12. **Tubercle Bacillus in the Blood.**—Analysis of the results obtained by Hewat and Sutherland shows them to be almost completely opposed to those obtained by other observers. In one instance only, out of twenty-two blood examinations from twenty patients, was it possible to demonstrate tubercle bacilli. In this case two acid-fast bacilli were found, resembling morphologically the tubercle bacillus. A second examination of the blood of the same patient proved negative after prolonged search, so that they were led to believe that the presence of the two bacilli referred to may have been accidental. These observations seem, therefore, to indicate that at no stage of localized pulmonary tuberculosis is the tubercle bacillus demonstrable in the blood.

13. **Influence of Unsaturated Fatty Acids in Tuberculosis.**—Williams and Forsyth summarize their paper as follows:

1. Bodies containing unsaturated fatty acids have the power of
disintegr dosage is the waxy envelope which surrounds the tubercle
continuous outdoor or prac the food, influences the nature of the
to wind, rain, and excessive cold. n in unsaturated fatty
healthy individual would avoid should he bacilli in the body.
consumptive, Benedict finds it difficult t itself be fatal to the
ed, the bacillus may be
y forces.
Southern California Practitio their compounds aid the
October
odies there is a beneficial

100 Suggestions as to Diet in Tubercul ing, Monrovia.
101 Su Gastric cular, London
102 Ca Op 6 R. T. Bullard, Los Angeles. Stoney.
103 Internal Obstruction from I the Public Health. D. Walsh. burg, Riverside, Cal. nd Professional Education. J. S.

Interstate Medi Arthritis. A. Robin.

Journal, London

104 Clinical Study of the
September 29
105 Psychiatry. S. I. S
106 *Presence of Tube in which Diagnosis was Difficult. J. A. culosis. A.
107 *Physiology the Cerebral Circulation and Their Clinical Mani-
108 Syphilitions (continued). A. E. Russell.
109 *Per

October 6

29 Operative Treatment of Carcinoma of Uterus. A. H. N. Lewers.
30 *Disorders of the Cerebral Circulation and Their Clinical Manifestations (concluded). A. E. Russell.

30. **Disorders of Cerebral Circulation.**—In his lectures Russell endeavors to show that variations in the cerebral circulation, apart from gross lesions such as hemorrhage, thrombosis, and embolism, exercise great influence in the production of nervous symptoms. Such variations in the cerebral circulation are often associated with equally marked variations in the peripheral circulation and in the action of the heart. Alterations in the circulation afford an adequate explanation, not only of the ordinary fainting fit, but also of the more prolonged attacks characterized by cardiac, vasomotor and cerebral symptoms. Russell urges that these cases, which in some respects are so closely allied to epilepsy, the suddenness of some faints and the conversions of faints and fits, afford strong evidence that the epileptic fit itself owes its origin to some disturbance of the circulation. Corroborative evidence is afforded by the accuracy with which the symptoms of the various stages of the epileptic fit are reproduced in cases of heart-block due to heart disease.

Finally, evidence of the cessation of the heart's activity in epilepsy is given. In the case of petit mal it has been suggested that two different factors may be concerned. In some cases the transient unconsciousness may be produced by a very transient cardiac failure; in others cerebral vasomotor spasm may be concerned. Russell holds that if these views are correct, the pathology of epilepsy is carried only one stage further. The reason of these morbid cardiovascular changes is yet to seek. A hereditary factor is obvious, and we must assume that there is an inherited instability of the sympathetic and cardiovascular systems. The cerebral manifestations of uremia are simply due to increased intracranial tension with resultant interference with the cerebral circulation. Evidence is given to show that this change is amply sufficient to account for all the manifestations of uremia.

Practitioner, London

October

31 *On Being Tired. Sir L. Brunton.
32 *Indigestion. F. J. Smith.
33 *Treatment of Lobar Pneumonia. A. Latham.
34 Headache. W. Harris.
35 Jaundice. G. Rankin.
36 *The Common Cold. H. Campbell.
37 Neuralgia. P. Stewart.
38 Pertussis . H. Thursfield.
39 Treatment riscoe.
40 *Boils and tment. H. G. Adamson.
41 Corns and
42 Fractures the Femur and Their Treatment.
43 Pelvic Pain Apart from Obvious Lesions. H. T. Hicks.
44 Operative Technic of Piles. J. H. Nicoll.
45 Useful Points in Connection with Diseases of the Ear. M. Yearsley.
46 Common Diseases of the Hair. T. Robinson.

31. **Being Tired.**—Brunton's paper is a very thorough and most interesting discussion of fatigue which, he says, like hunger and thirst, is a systemic sensation, although, just as hunger has its local seat in the stomach, and thirst in the mouth and throat, fatigue has it more especially in the eyes and muscles. Hunger, thirst and fatigue are among the overpowering sensations of the body, and fatigue may be so great as to overpower the other two, and to prevent the sufferer from obtaining the food and drink which would have relieved him. Excessive weariness is so painful that it destroys the desire for life. Although weariness may be produced by a number of causes, yet the most frequent is excessive muscular exertion. Over-exertion in a muscle causes it gradually to lose its power of contraction, until, finally, it cannot contract at all, and so movement either of the body or limbs becomes impossible. But so long as muscles are connected with the central nervous system the complete exhaustion of the muscle is impossible, for before it becomes paralyzed by its own exertion the sensation of fatigue is perceived by the nervous centers, and the nervous stimuli which proceed to the muscle are so much diminished that complete paralysis is never produced. The sensation of fatigue is a central sensation. It is observed in the central nervous system, but it is produced by peripheral exertion. Brunton describes a number of physiologic experiments in line with these thoughts.

32. **Indigestion.**—Having once found out to the best of our knowledge and belief that there is no organic cause for indigestion, says Smith, does it help in any way to clearer conceptions of indigestion to prefix it with so many names—atonic, hyperchlorhydric, hypochlorhydric, apeptic, gouty, rheumatic, atrophic, dystrophic, renal, irritative, flatulent? Surely it is better to consider what sin a patient has been guilty of that he should be thus troubled, and how he can be helped back to paths of physiologic righteousness. The stomach is a long-suffering organ, as, indeed, it was meant and has need to be, but even a worm will turn at last, and *so the stomach resents the treatment it is being subjected to* and cries out for more consideration. Smith briefly runs over the symptoms of indigestion, and points out those features which suggest organic disease and render scientific investigation desirable.

As to the diet, Smith claims that cold boiled ham or bacon is of all flesh foods the most easily digested; other fads are that chicken is less digestible than beef and mutton when the latter are properly masticated; that there is no difference between red and white meat in digestibility, inherent in the meat itself, that is to say, though a patient may prefer one to the other; that fish need not necessarily be boiled, but may be cooked to the taste of the eater; and, lastly, that if a patient likes to try any fad of the faddists it will probably do him no harm to do so.

33. **Treatment of Lobar Pneumonia.**—One practical deduction made by Latham is that the patient should be placed under the same conditions as a patient suffering from typhoid fever. He should be kept in bed in what he finds to be the most comfortable position—usually the supine position—and any attempt at movement by his own exertion should be checked. The nurse may naturally shift his position, from time to time, either when this is requisite for nursing purposes, or when the patient craves for a change of position, but such movements must entail as little exertion on the patient's part as possible. Another deduction is that once the diagnosis is made examination of the patient should be directed to strictly salient points. The elaborate examination of the chest, back and front, once or even twice daily, does harm. The anxious search of some physicians for the presence of fluid or pus seldom gives any information in the first week of the disease, while the careful mapping out, day by day, of the area of consolidation has seldom, if ever, led to any advantage to the patient. Such elaborate physical examinations often mean the difference between recovery and death. In the treatment of pneumonia, then, the first lesson, based both on facts of clinical experience and on scientific investigation, is to refrain from unnecessary movement and meddlesome examination. Apart from the essential necessity of absolute rest, and apart from vaccine therapy, the treatment of pneumonia resolves itself into placing the patient under the best hygienic conditions, supplying a non-flatulent diet,

[illegible] they arise, and endeavoring to avoid [illegible] has had encouraging results from the use of vaccines.

36. **The Common Cold.**—Campbell claims that by means of vaccine therapy, not only are we able to cut short an acute cold, but also to confer considerable immunity against future attacks. By this method, we can, further, often successfully treat colds which have become chronic, e. g., chronic rhinitis, laryngitis and bronchitis. In but few cases of common cold can a stock of vaccine be employed with much hope of success; except in the case of the *Bacillus septus* we are not likely to do good by any vaccine other than that prepared from the patient's own person.

40. **Boils and Carbuncles.**—In cases of acute or recent eruptions of boils, Adamson says one may expect a cure by the use of vaccines; that there are, however, many methods of local application which give excellent results, particularly, collodion painting in early lesions, injection of carbolic acid, hot fomentations, and glycerin dressings; that in chronic furunculosis vaccines may be given a trial; but that the best results are to be obtained from continuous boric-acid fomentations, and from *x*-ray application to lesions which are much indurated. In cases of carbuncles the lesion is seen when small, it may be painted with collodion or injected with carbolic acid, but, better still, merely protected with a boric-acid fomentation and a thick pad of wool, and a staphylococcus vaccine administered; the injection to be repeated in three or four days if improvement takes place. If the lesion continues to spread in spite of the vaccine, then it should be treated surgically by complete excision, or by scraping or cutting away all the diseased tissue. In the case of very large carbuncles, complete erasion is the treatment which gives most rapid relief to all symptoms.

Indian Medical Gazette, Calcutta

September

47 *Jail Dysentery, with Special Reference to Forster's Vaccine. W. Gillitt.
48 Smallp[illegible]
49 New L[illegible] G. C. Chatterjee.
50 Etiolo[illegible] Notes on Early Stage of Leishman-Donovan Infection. G. C. Chatterjee.

47. **Jail Dysentery.**—Gillitt reaffirms his belief in the efficacy of the vaccine treatment of dysentery and reports cases.

Intercolonial Medical Journal of Australasia, Melbourne

August

51 Early Recognition of Uterine Carcinoma. G. Horne.
52 [illegible] E. A. Spowers.
53 [illegible] J. Wood.
54 [illegible] I. Morton.
55 [illegible] omies (continued). A. J. Nyulasy.
56 Large Vesical Calculus, Weighing Twenty-six and One-fourth Ounces, Removed by Suprapubic Lithotomy—Recovery. W. W. Hearne.
57 Case of Sprue. C. Bage.

Annales de Dermatologie et de Syphiligraphie, Paris

September, X, Nos. 8-9, pp. 481-544

58 Congenital Erythrod[illegible] sis. (Contribution à l'étude des [illegible] ichtyosiformes avec deux observa[illegible] Jambon.
59 Ringworm at Parma. [illegible] nce de Parme.) R. Sabouraud.

Archives Générales de Chirurgie, Paris

September, III, No. 9, pp. 881-990

60 *Surgery of the Heart. (Contribution à la chirurgie du cœur.) Salomoni.
61 Implantation of the Ureter in the High Stump of the Rectum After Low Enteroanastomosis with Sigmoid Flexure. (Urétéro-rectostomie haute terminale après sigmoido-rectostomie basse termino-latérale.) P. Descomps.
62 *Compound Fractures of Front of the Skull. (Les fractures compliquées de la région antérieure du crâne.) L. Thévenot.
63 Total Epiploitis Complicating Salpingitis. Mauclaire.

60. **Surgery of the Heart.**—Salomoni has been able to find 158 cases in which the heart has been sutured, reported by 119 surgeons. Recovery occurred in 59 cases, that is, in 37.33 per cent. In 21 cases death occurred *before the* operation was completed. The list includes 57 cases published in Italy, with 13 recoveries. He advocates access to the heart by enlarging the traumatic wound with scissors and articulating from the sternum the costal cartilages above and below. In 30 out of the total 58 recoveries the pericardium had been drained. The effusion in the pericardium which frequently follows the suture collects back of the heart, causing precordial oppression, distress and weakness; acceleration of the pulse and cyanosis do not appear until later. The list includes only 6 cases reported in America.

62. **Compound Fractures of the Front of the Skull.**—Thévenot reports two cases and discusses the treatment. It is important, he says, to explore the wound under general anesthesia, *not forgetting* that the *fracture* may be at some little distance to one side of the wound of the soft parts. In some cases a fracture has been assumed when nothing of the kind existed. This is especially liable when the lesion is low and the frontal sinus unusually developed, as the fracture may involve only the anterior wall of the sinus. Nervous symptoms, if present, are apathy, somnolency, and impairment of memory; the absence of severe reaction on the part of the nervous system sometimes misleads as to the presence of a fracture. If the pulse or respiration becomes slower or there is slight mental confusion, immediate exploration of the wound is indicated.

Archives Générales de Medecine, Paris

August, LXXXIX, No. 8, pp. 571-650

64 Acute Articular Rheumatism. (Bactériologie, sérothérapies et vaccination du rhumatisme articulaire aigu.) G. Rosenthal.
65 Symptomatology of the Vestibule of the Ear. (L'appareil vestibulaire de l'oreille.) Goldmann.

Presse Médicale, Paris

Oct. 2, XVII, No. 79, pp. 689-696

66 Measures to Prevent Operative Infection. (Des moyens preventifs de l'infection opératoire.) T. Tuffier.

Oct. 6, No. 80, pp. 697-704

67 Serodiagnosis of Echinococcus Disease. (Diagnostic de l'échinococcose par la réaction de fixation. Ses causes d'erreur.) G. Paisseau and L. Tixier.

Oct. 9, No. 81, pp. 705-720

68 *Spasmodic Paralysis in Inherited Syphilis. (Forme de paralysie spasmodique d'origine hérédo-syphilitique chez l'enfant.) A. B. Marfan.
69 *"Numerical" Atrophy. (Contribution à l'étude de l'atrophie numérique.) F. Trémolières and A. Gallais.

Oct. 13, No. 82, pp. 721-728

70 General Anesthesia with Spinal Technic. (La rachianesthésie générale.) T. Jonnesco.

68. **Spasmodic Paralysis of Syphilitic Origin in Children.**—Marfan discusses the case of a boy between 8 and 9 with spasmodic paraplegia more pronounced on the left side, scarcely perceptible as the child reclines, but interfering with standing and walking; the paralysis is not accompanied by sensory or trophic disturbances or sphincter trouble, but the Argyll-Robertson sign is marked and the child is mentally backward. The first tendency to paralysis was observed about the age of 5, previously to which the development had been practically normal except for slight evidences of rachitis. These features of the case exclude Little's disease, and the insidious onset without fever, convulsions or coma and the integrity of the arms also exclude acute encephalitis. The trouble is evidently of spinal origin, but the spine is apparently *normal*. The *clinical picture* indicates some lesion in the pyramidal tract in the dorso-lumbar region. The absence of other cases in the family excludes what Strümpell has described under the name of "familial spasmodic paraplegia." Marfan has encountered three similar cases and in all was able to trace the trouble to inherited syphilis. He even suggests that syphilis may have some connection with Strümpell's familial form. In the present case the paraplegia did not seem to be influenced by eighteen months of systematic mercurial treatment. It was not instituted, however, until the paraplegia had lasted for fifteen months; it is possible that better results might have been attained if the child had been seen earlier.

69. **"Numerical" Atrophy.**—Klippel first called attention to this form of atrophy affecting regions which have been the site of some injury during the early periods of growth. The tissues are normal but they do not develop to the normal extent. The atrophy is the entire trouble, all tests showing freedom from degeneracy, the general impression being that of merely a lesser number of cells than normally in the region, hence the term, "numerical atrophy." The present article shows how *it* can be detected *in* the most widely diverse conditions and afford a predisposition to numerous and varied affections, from the skin lesions to tuberculosis and even brain troubles.

Archiv für Kinderheilkunde, Stuttgart

LI, Nos. 5-6, pp. 321-500. Last Indexed October 16, p. 1339

71 *Treatment of Diphtheritic Laryngeal Stenosis. J. Neuma

71. **Treatment of Diphtheritic Laryngeal Stenosis.**—Neumann reports the experiences with diphtheritic stenosis in Baginsky's pediatric service at Berlin during the years 1901-1907 inclusive. Pre-existing tuberculosis was found in a number of the fatal cases of laryngeal ulceration, and this may be a more frequent factor, he says, than is generally recognized. The cutaneous or other tuberculin test may prove useful in throwing light on some of these cases.

Archiv für klinische Chirurgie, Berlin

XC, No. 3, pp. 543-864. Last Indexed September 18 and October 16, pp. 980 and 1339

72 Rupture and Dislocation of Finger Tendon. (Ruptur und Luxation der Streckaponeurose eines Fingers.) H. Schloffer.
73 *Diagnosis of Conditions in Kidney Pelvis by Gauging Capacity and by Roentgen Examination. (Zur Diagnose des erweiterten Nierenbeckens durch Aichung und Pyelographie.) F. Voelcker.
74 *Experimental Cancer in Dogs. (Experimentelle Erzeugung des Carcinoms beim Hunde.) A. Sticker.
75 Experimental Research on Movements of the Intestines. (Experimentelle Untersuchungen über normale und pathogische [illegible] se and H. Heyrovsky.
76 *Te[illegible] ancer of Pelvic Portion of Rectum [illegible] der abdomino-perinealen Operation [illegible] pelvina recti und des Colon pel[illegible]num.) L. Moszkowicz.
77 *Operative Treatment of Diffuse Suppurative Peritonitis. W. Noetzel.
78 *Puncture of Corpus Callosum in Brain Surgery. (Bewerthung des Balkenstichs in der Hirnchirurgie.) v. Bramann.
79 Earthquake Injuries. (Ueber die durch das Erdbeben in Messina am 28 Dec. 1908 verursachten Verletzungen.) Colmers.
80 *Free Transplantation of Ureter to Serve for Urethra. (Eine neue Methode zur Operation der männlichen Hypospadie.) V. Schmieden.
81 *Scalping Accidents. (Ueber Scalpirungen.) W. Eichmeyer.
82 *Fish-bladder to Close Gap in the Dura. (Ueber alloplastichen Duraersatz.) J. H[illegible]anel.
83 Experimental Research on Action [illegible] Electric Currents. (Fulguration.) P. [illegible]
84 Plastic Operations on the Trachea [illegible] K. [illegible]
85 [illegible] of Congenital Sarcoma. (Zur localen [illegible] congenitaler Sarkome ohne Röntgen-[illegible]

73. **Diagnosis of Enlarged Kidney Pelvis by Gauging Capacity and by Roentgen Examination.**—Voelcker has been continuing his work with his method of pyelography, that is, Roentgen inspection of the kidney pelvis after it has been filled with a fluid that casts a shadow, which he first described two years ago. He here relates his experience with it in a number of clinical cases, giving seventeen skiagraphs to show the findings. He supplements or precedes the pyelography by gauging the size of the pelvis from the amount of fluid that can be injected into it, using the same fluid that is required for the pyelography. He has found a solution of colloidal silver best adapted for the purpose, preferring a 2 per cent. solution of collargol; its dark color distinguishes it from urine, and it casts a shadow under the Roentgen rays. He injects it through a ureter catheter until the injection becomes painful or the collargol solution flows back outside the catheter. When the catheter is first introduced, he determines the amount of residual urine by noting the amount of urine that trickles from the catheter and whether it stops abruptly, whether it is of normal tint and specific gravity—the urine secreted in reflex polyuria is very thin and pale; whether the urine is turbid, and this turbidity reaches its maximum as the trickling of urine ceases, and whether the amount of urine trickling from the catheter cannot be increased by bimanual pressure on the kidney region—all these signs speaking for residual urine. After learning all he can in this line, he injects the silver solution if convinced that the pelvis is dilated; the stretched walls do not feel the injected fluid, but if the pelvis is not dilated the solution causes pain. In this way he has gauged the capacity of the kidney pelvis, finding it range from 5 to 20, 120 and even 150 c.c. in some cases. The findings are classified as noted in cases of wandering kidney, congenital displacement of the kidney, dilatation of the pelvis and dilatation of the ureters, examples of the Roentgen findings in each being given.

74. **Facts Learned from Experimental Cancer on Dogs.**—Sticker reports that inoculation of a fragment of a spindle-celled sarcoma into the mammary gland of a dog resulted in the production of a typical mammary carcinoma, and cites similar experiences reported by others. Such facts teach, he reiterates, that implantation and irritation are causal factors of cancer, although not necessarily the only ones. All malignant growths of rapid development, he thinks, are due to implanted germs which irritate the region where they are implanted, the result being a tumor growth which need not necessarily be of the same structure as that of the implanted germ. He suggests the term "mutation tumor" for a growth of this kind and reports some clinical examples, as, for example, Schmorl's case, in which an adenocarcinoma in the thyroid recurred after removal, the recurrence being part carcinoma and part sarcoma, while at autopsy typical sarcomas were found at various internal points.

76. **Combined Technic for Removal of Cancer in Pelvic Rectum or Colon.**—Moszkowicz reports 16 cases of cancer of the pelvic rectum or colon, with a mortality of 4, that is of 25 per cent., but zero during the last series of 6 cases. He gives illustrations of special points in his technic, urging the importance of shortening the operation as much as possible, and discussing the indications for a supplementary artificial anus and the technic for providing an organic diaphragm between the pelvis and the abdominal cavity.

77. **Operative Treatment of Diffuse Suppurative Peritonitis.**—Noetzel devotes nearly a hundred pages to a review of the various operative measures that have been attempted in peritonitis. His own figures embrace the years 1891-1908, and a total of 449 cases. The principles followed were those advocated by Rehn: extensive opening of the abdomen and radical removal of the cause; extensive irrigation with warm salt solution and drainage at the lowest point, the pelvis lowered; and suture to restore normal pressure in the abdominal cavity. All the patients with purulent peritonitis were treated in this way, even the apparently moribund, and 62 per cent., 278 of the 449, were cured. Hernia later was observed only in a small proportion of the cases. The mortality has been constantly decreasing until now recovery is the rule in from three-fourths to four-fifths of all cases, the mortality averaging now only 20 per cent.; the deaths being mostly caused by pneumonia, sepsis, subphrenic abscess, phlegmons, ileus or inanition.

78. **Puncture of the Corpus Callosum in Brain Surgery.**—Bramann's communication on this measure in treatment of hydrocephalus was summarized in these columns October 30. He here gives a more detailed description of the technic, with special reference to brain tumors. In three patients in an advanced stage the headache, vertigo and vomiting subsided more or less completely after the puncture. In another case the benefit from the puncture was so decided that the patient, rousing from her comatous condition, free at last from the violent headaches, vomiting, vertigo and tinnitus, responded sufficiently to tests so that the causal tumor could be finally located and successfully removed. The symptoms due exclusively to the tumor persisted, but those from the pressure of fluid subsided after the puncture. This case, he asserts, refutes the objection that the results of puncture may mask the clinical tumor picture and render localization more difficult. The rapid subsidence of choked disc was one of the most striking results of the puncture. He urges puncture of the corpus callosum in all cases of hydrocephalus rebellious to other measures and in all cases of tumors and pseudotumors of the brain accompanied by internal hydrocephalus and congestion neuritis threatening blindness, and also as a preliminary to removal of a brain tumor when the brain is under such pressure that it tears or protrudes much from the trephining opening, preventing palpation. In a number of such cases relief of pressure by the puncture enabled the operation to be successfully completed. He suggests in conclusion that puncture of the corpus callosum may possibly prove of use in treatment of epilepsy.

80. **Treatment of Hypospadias.**—Schmieden writes from Bier's clinic at Berlin to describe with a few illustrations a method of correcting hypospadias by building up the penis, then boring a tunnel through it, and drawing into this tunnel a stretch of ureter taken from some other living person or

from the cadaver. In one case he used the ureter from a child's cadaver. In others he waited until he could summon the patient on occasion of an operation for hydronephrosis on another patient. He waits fully two weeks after implantation of the ureter before he tests its permeability, then commences to inject sterile oil through it and, finally, four or five weeks later, unites the proximal stump of the ureter with the distal stump of the patient's urethra and closes the openings except the meatus of the new urethra. He has experimented on animals with implantation of a stretch of ureter, although not in the penis, and in only one of his nineteen experiments did the ureter show signs of necrosis. In three clinical cases the technic gave fairly satisfactory results, but he regards only one of these cases as a complete success.

81. **Scalping Accidents.**—Eichmeyer has had two such cases in his recent experience and another is in the records of his hospital while he has found fifty-two other cases in the literature. In case the scalp hangs by a sufficiently broad pedicle to nourish it adequately, it should be replaced and efforts made to have it heal in place. But if the pedicle is small these efforts are sure to fail, and the only thing that can be done then is to cut down the scalp to an area proportional to the amount of nourishment liable to be supplied through the pedicle. It is useless and does actual harm to interfere with the healing of the injury by replacing the torn-off scalp unless there is a reasonable prospect of its healing in place. Under favorable conditions the Krause method of flaps from the periphery of the injury may be applied, but these do not heal over the vertex: a combination of the Italian plastic method and Krause flaps offers the best prospects. If Thiersch flaps are preferred, it is well to commence with them in a day or so, but they will not heal on bare bone. Chronic nervous manifestations are the rule afterward.

82. **Fish Bladder to Close Defect in the Dura.**—Hanel reports experiments on dogs which show that a piece of fish bladder heals into place when introduced to fill a gap in the dura. It becomes gradually absorbed, but a kind of membrane forms in its place. A month or two after its implantation this membrane fills up the gap in the dura, its thickness and texture being strikingly like that of the normal dura, while there is no adhesion to the brain below.

Berliner klinische Wochenschrift

October 4, XLVI, No. 40, pp. 1797-1836

86 Morphology of Tuberculosis Virus with Special Regard to a Contrast Stain. L. Weiss.
87 *Diphtheria Toxin and Roentgen Rays. (Diphtheriegift und Röntgenstrahlen.) H. Gerhartz.
88 Paratyphoid Bacilli A. (Ueber Paratyphus A.) G. Baermann and O. Eckersdorff.
89 *Endographic Method [illegible] mentary Canal. (Ueber die Anfänge [illegible] Untersuchungsmethode von Magen, [illegible] H. Schade.
90 Treatment of Obesity. (Ueber Entfettungskuren.) E. Tobias.
91 *Use of Active Serums for Serodiagnosis of Syphilis. N. A. Tschernogubow.
92 Dynamics of Morbid Phenomena. (Ueber die Dynamik der Krankheitserscheinungen.) A. Münzer.

87. **Diphtheria Toxin and Roentgen Rays.**—Gerhartz reports from Senator's clinic at Berlin a series of experiments which seem to demonstrate that exposure to the Roentgen rays destroys the toxicity of the toxin both in the test-tube and in the animal body, whether the toxin is circulating in the blood stream or bound in the tissues. In every experiment the animals exposed to the rays survived hours longer than the controls after injection of several times the fatal dose. Animals injected with six times the fatal dose of toxin, exposed previously to the action of the rays, also showed much attenuated infection.

89. **Endographic Examination of Esophagus, Stomach and Intestines.**—In this preliminary communication Schade describes his application to clinical diagnosis of the principle of introducing an inflatable bag into the organ to be examined, and determination of the condition of the walls of the organ by the chemical reactions noted on the surface of the inflatable bag. He calls the method "endography," and uses for the purpose a rubber bag coated before vulcanization with a thick layer of rice starch; this acts like a reagent paper in contact with abnormal secretions and tissues. A smaller tube is enclosed in the stomach tube, the lower end of the smaller tube terminating in a hollow olive. The reagent bag is fastened to the end of the inner tube, and is enclosed in a second very frail inflatable rubber bag, both being introduced collapsed into the stomach, being easily pushed along ahead of the outer stomach tube by the protruding olive of the inner tube. The outer bag ruptures when inflated through the outer tube, leaving the reagent bag free; when it is inflated its outer surface fits against the inner walls of the organ, and any ulcer, cancer or other lesion makes its imprint on the chemically prepared surface. The bag is then withdrawn collapsed through the outer stomach tube left in position. To date the operation later or course of the cases has confirmed in every instance the presence or absence of a gastric ulcer as indicated by this technic.

91. **Improved Technic for Seroreaction in Syphilis.**—Tschernogubow remarks that the Wassermann test will not take its proper place among diagnostic measures until the technic has been so modified that it can be adopted as a routine measure by the general practitioner. He is convinced that great progress has been realized in this direction by the technic which he has worked out and describes, citing the results to date of extensive application of the modified test. Only 0.5 c.c. of the patient's blood is required, while the Wassermann technic calls for ten or twenty times this amount. The other elements required for the test are merely an alcoholic extract of a pulverized healthy human liver and a 5 per cent. emulsion of sheep corpuscles. Parallel results were obtained in nearly every instance with this and the original Wassermann technic.

Deutsches Archiv für klinische Medizin, Leipsic

XCVII, Nos. 3-4, pp. 201-409. Last Indexed October 16, p. 1340

93 Research on Dyspnea from Stenosis of Air Passages. (Gasanalytische Untersuchungen.) P. Morawitz and R. Siebeck. (Einstellung der Mittellage der Lunge.) R. Siebeck.
94 Sclerosis of Pulmonary Arteries and Its Origin. (Sklerose der Lungenarterien und [illegible] Fischer.
95 Metabolism in Fever, [illegible] (Stoffwechseluntersuchungen bei [illegible] kachektischen Zustanden.) F. Rolly and O. Meltzer.
96 Importance of Opsonins in Diagnosis and Prognosis in Tuberculosis. W. Fornet and E. Krencker.
97 General Infection from Colon Bacilli. (Allgemeininfektion durch Bacterium coli commune.) L. Jacob.
98 *Connection Between Adams-Stokes' Syndrome and Heart-[illegible] Adams-Stokes'schen Symptomen- [illegible] F. Volhard.
99 Ar[illegible] Albumin in Diabetics. (Menge des aus Eiweiss entstehenden Zuckers beim Diabetes.) A. Gigon.

98. **Relations Between Morgagni-Adams-Stokes' Syndrome and Heart-Block.**—Volhard gives a number of curves taken from thirteen patients with heart block, and remarks that heart-block alone does not necessarily entail the Adams-Stokes' syndrome, though it may do so. A certain proportion of patients require no treatment; others with insufficiency of the automatically beating ventricle are greatly benefited by a milk diet or restriction of fluids. Digitalis gave good results in some of the cases of dissociation, with complete heart-block. On the other hand, the digitalis induced dissociation for the first time in a case of incomplete block. Atropin is not always reliable except in the true vagus cases without disturbances in the atrioventricular conduction. The most careful study of each individual case is necessary to determine which patient will be benefited most by digitalis, atropin, dieting, iodids, mercury or oxygen. The discovery of the Adams-Stokes' syndrome or dissociation or both is just the beginning of the true diagnosis. The more precisely it is possible to determine the reasons for the dissociation and for the syncope with dissociation, the more effectual will be the treatment based thereon of this complication of heart-block, for this is what the Adams-Stokes' syndrome is. The complicating causes which start the separate attacks may be many and various; the main point is the exact diagnosis of the underlying conditions.

Deutsche medizinische Wochenschrift, Berlin

October 7, XXXV, No. 40, pp. 1729-1776

100 *Which is Most Important Mode of Spread of Human Tuberculosis? (Welche Ansteckungsweise spielt bei der Tuberkulose des Menschen die wichtigste Rolle?) P. v. Baumgarten.
101 *T[illegible] and Organs. (Ueber Gefäss- und [illegible] C. Garrè.
102 I[illegible] in Treatment of Myxedema and Cretinism. (Ueber Schilddrüsenimplantation bei Myxödem und Kretinismus.) F. v. Bramann.

103 Conservative Treatment of Surgical Tuberculosis. R. Klapp.
104 *Sign Revealing Placenta Prævia. (Ein brauchbares Kennzeichen der Placenta praevia.) H. Sellheim.
105 *Treatment of Lupus Vulgaris. (Behandlung des Lupus vulgaris mit Rücksicht auf die Pathogenese.) E. Lang.
106 End-Results of Enlarged Vaginal Hysterectomy for Cancer of Cervix. (Dauerresultate der erweiterten vaginalen Totalexstirpation des Uterus bei Kollumkrebs.) F. Schauta. Commenced in No. 39.
107 Familial Enlargement of Spleen and Liver, with Anemia; Benign Course. (Familiäre Milz- und Lebervergrösserung mit Ani rlauf.) A. Plehn.
108 Stain for von Feuchtpräparaten mit meiner . G. Giemsa.
109 Colorimetric Test for Adrenalin. (Eine neue kolorimetrische Methode der Adrenalinbestimmung.) A. Zanfrognini.

100. **Route of Infection in Tuberculosis.**—Baumgarten thinks that the germs may be inhaled or ingested, but that future research will show that the prevailing mode of infection is by what he calls gennaeogenesis, that is, the penetration of the parental bacilli into the embryo-producing substance and into the fetus during intrauterine existence. He uses this term in preference to "germinative" and "congenital" origin to express the process more definitely.

101. **Transplantation of Vessels and Organs.**—Garrè describes what has been accomplished to date in this line.

104. **Sign of Placenta Prævia.**—Sellheim calls attention to the peculiar sensation of resistance, as of a soft cushion, between the palpating finger and the head of the fetus in case of placenta prævia. The abrupt margin of the placenta can be felt through the abdominal wall and at the rear of the uterus, with the palpating finger in the vagina.

105. **Treatment of Lupus.**—Lang reports a permanent cure in 262 cases of lupus out of 291 patients reexamined at least six months after the conclusion of treatment—his total experience including 412 cases since 1892. The fact that lupus attacks generally uncovered portions speaks for infection from without, but at the same time it may be due to some internal focus within the body. The combination of operative measures and Finsen treatment should be supplemented by general measures. The necessity for a certain amount of surgical training for young dermatologists is especially evident in the treatment of lupus, but he warns against the sharp curette and the actual cautery or any measure which leaves scars which interfere with Finsen treatment later. Special lupus institutes give much better results, as in general hospitals it is difficult to obtain the necessary concentration of attention on the lupus patients.

Deutsche Zeitschrift für Chirurgie, Leipsic

C, pp. 1-645

110 *Inflammatory Tumors in the Intestines. (Ueber entzündliche Geschwülste am Darm.) H. Braun.
111 Hypophysic Tumor w
112 Operative Reduction pera-tive Einrenkung J. Dollinger.
113 Treatment of Congenital Dislocation of the Hip-Joint. (Behandlung der angeborenen Hüftgelenksverrenkung.) E. Küster.
114 *Treatment of Contracture, etc., by Operations on the Muscles. (Myotomie und Myoraphie.) B. Bardenheuer.
115 *Surgery of Ureters. (Heutiger Stand der Ureterchirurgie.) C. Garrè.
116 * e Blood Picture. (Zur Diagnose tenden Peritonitis mit besonderer leutung der Arnethschen Blut- d R. Kothe.
117 Bladder Corrected by Maydl's of the Urine Voided Through the Bowel. (Zwei nach Maydl geheilte Fälle von Blasenektopie mit Untersuchungen des aus dem Darm entleerten Harnes.) E. Graser.
118 *Rupture of Incarcerated Intestine Under Taxis. (Ruptur des inkarzerierten Darmes bei der Taxis.) O. Kappeler.
119 Incarceration of the Intestine. armschlingen im eingeklemmten Zugleich ein neuer Beitrag zu en W" resp. der "retrograden auenstein.
120 *Operative Treatment of Unilateral Pulmonary Tuberculosis by Total Mobilization of Wall of Chest and Release of Lung. (Pleuro-Pneumolysis thoracoplastica.) P. L. Friedrich.
121 *Present Technic of Witzel's Gastrostomy. (Die Magenfistelanlegung mit Schrägkanalbildung in ihrer heutigen Ausführung.) O. Witzel.
122 Plastic Operations on the Cheeks. (Wangenplastik.) E. Lexer.
123 Isolated Tuberculous Tumor of Ascending Colon. H. Küttner.
124 *Transplanted Flaps to Re-enforce Suture Line. (Ueber die Versicherung—Verlötung—unzuverlässiger Nahtlinien an Bauchrand Harnröhre usw. durch aufgepflantze Gewebslappen.) F. König.
125 Diagnosis and Treatment of Ureter Strictures. (Ureterenverengerung.) L. R. v. Rydygier.
126 Congenital Diverticula in the Bladder. (Kongenitalen Blasendivertikel.) G. Perthes.
127 Autopsy in Case of Total Exclusion of Colon Over Thirteen Years Ago. (Zur Darmausschaltung.) Wiesinger.
128 Operative Treatment of Fracture of Head of Femur, Especially in the Young. (Operative Behandlung der Schenkelhalsbrüche besonders im jugendlichen Alter.) Borchard.
129 Omentum in Plastic Operation for Perforated Stomach or Duodenal Ulcer. (Zur Verwertung der Netzplastik bei der Behandlung des perforierten Magen- und Duodenalgeschwürs.) A. Neumann.
130 Surgery of Pancreas Cysts. M. Martens.
131 Treatment of Complete Dislocation of the Mediotarsal Joint. (Einige Bemerkungen über die Luxatio medio-tarsea completa.) O. Madelung.
132 *Treatment of Hypophysis Tumors. J. Hochenegg.
133 Treatment of Rectal Prolapse by Plastic Operation on Pelvic lastdarmvorfalls mit der Becken-
134 arathyroid. F. de Quervain.
135 Treatment of Peritonitis with Special Regard to Primary Enterostomy. P. Sick.
136 Sensibility in Abdominal Organs. (Sensibilität und Schmerzempfindung der Bauchorgane.) M. Wilms.
137 The Joints with General Edema. (Verhalten der Gelenke bei allgemeinen Oedemen und Gefässkompressionen; Stauungsergüsse.) W. Müller.
138 *Treatment of Lupus on New Principles. (Einige neue Versuche zur Behandlung des Lupus.) Payr.
139 *General Index from Foundation to Date. (General-Register zu Band I-C.)

110. **Inflammatory Tumors in the Intestine.**—Braun called attention eight years ago to certain tumors in the omentum which were merely inflammatory reactions, although simulating malignant neoplasms. He here reports three similar cases in which the intestine was the site of the lesion and cites a few he has found on record. In his first case the tumor and part of the colon were resected, as also a second tumor in the intestine near the artificial anus that had been made on the assumption of carcinoma of the sigmoid flexure. The microscope revealed, however, merely a circumscribed inflammatory reaction without a trace of malignant characteristics. He thinks that some primary focus elsewhere was probably responsible for these pseudotumors, but the primary focus may have been too insignificant to attract attention. In his two other cases the operation for supposed carcinoma was refused, and later the tumor disappeared completely. It is these pseudotumors, he decides, on which quacks build their reputation for curing cancer. A preceding laparotomy or inflammatory process in the intestines is an aid in differentiation, as also the presence of fever, which is rare with cancer. During the laparotomy the discovery that the tumor is predominantly in the mesocolon and that it does not encircle the intestine, testifies to its non-malignant nature. In case of doubt, an incision and inspection of the cut surface will generally decide the question. Expectant treatment is then in order, the subsidence of the pseudotumor being accelerated by bed rest, wet packs and light diet.

114. **Myotomy and Myorrhaphy.**—Bardenheuer has enlarged the scope of this technic and here reports its application in a number of cases of contracture from inflammation or trauma of tendons in infantile spastic hemiplegia and after extensive resection of joints. In case of ischemic tendon contracture the results of dividing the fibrous degenerated flexor muscles, eventually combined with shortening the extensors are better than from the Mikulicz' resection of the bones of the forearm or Schramm's lengthening of the flexor tendons. In case of injury of the tendons, the connected muscle should be lengthened if the tendon cannot be sutured without much flexing of the fingers. The results are also said to be superior in case of spastic hemiplegia when the extremely contracted muscle is severed and the tendons of the antagonist muscles are shortened. After resection of a joint, he cuts away the muscles to have those left correspond exactly to the area of bone remaining.

115. **Present Status of Ureter Surgery.**—Garrè's article is accompanied by twelve illustrations. He regards implantation of the ureter in the intestine in case of a defect in the ureter as the best means to ensure the functioning of the kidney above. The Borelius-Berglund technic promises the best results, in his opinion; the lateral anastomosis between the two legs of the loop of intestine, with the ureter implanted at the top of the loop, allows the passage of feces

below while the empty loop above answers solely the purpose of a recipient for the urine. This technic, he declares, is an improvement on the original Maydl principle. Injury of the ureter alone, he thinks, should not be accepted now as an indication for nephrectomy.

116. **Progressive Peritonitis and the Blood Picture.**—Arneth's statements in regard to the diagnostic importance of the blood picture in peritonitis, etc., were mentioned in THE JOURNAL, Oct. 20, 1906, page 1333. Sonnenburg here presents a detailed study of five cases of progressive peritonitis in which the blood findings, according to Arneth's formula, were recorded from day to day. They confirmed Arneth's statements and suggest that the neutrophile blood picture is a most important aid for oversight of the processes going on and the severity of the infection.

118. **Rupture of Incarcerated Hernia During Taxis.**—Kappeler reports four unpublished cases and four from the literature. The taxis had been applied by the patient himself in four, but in two taxis had been very gentle and by a skilled hand. In one case the incarceration had lasted less than three hours, the hernia was small and had never caused disturbances, being held easily under control by a truss, and yet rupture occurred under gentle taxis by a physician.

120. **Mobilization of Chest Wall for Apical Tuberculosis.**—Friedrich discusses the present condition of the patients operated on by thoracoplastic pleuropneumolysis nearly two years ago. The aim is to release the pleura and lung in case of pulmonary tuberculosis predominantly unilateral or restricted to the upper lobe. His experience during this interval has led him to modify the technic somewhat, as also to enlarge the sphere of its application, as he describes in detail, adding the history of a patient treated by releasing the lung tissue and pleura entirely around, after removal of seven ribs. His list now includes 14 cases, and marked benefit was observed in all.

121. **Witzel's Method of Gastrostomy to Date.**—The technic for the obliquely embedded tube for a permanent opening into the stomach has been modified more or less by Witzel during the twenty years this method has been in vogue, and he here gives an illustrated description of the technic which he has found most advantageous.

124. **Flaps for Reenforcing Sutures.**—König reports two cases in which he strengthened the suture after a herniotomy by transplanting a piece of the front of the tibia, 10 cm. long in one case. In another case a defect 2 cm. long in the urethra was sutured and the suture reenforced with a segment of the saphenous vein, slit and sutured over the length of the urethra, the skin being sutured together above it; the strip of vein healed smoothly in place. The aim is similar to the soldering at the junction of pipes, providing a broad expanse of soldering material under which the sutured edges cohere firmly.

132. **Hypophysis Tumors.**—Hochenegg reports his third case of operative treatment of a tumor in the hypophysis. The success in the first two cases was not repeated in the third. This patient showed signs of acromegaly in consequence of a tumor in the hypophysis; it was reached by turning back the nose and frontal sinus and opening the sphenoidal sinuses, but part of the tumor lay inside the skull and only the accessible portion could be removed. The patient soon roused from the slight anesthesia and said that the constant pain in the vertex was gone, but sudden heart failure the next day proved fatal. No signs of meningitis were found, death being due rather to the status lymphaticus and degeneration of the myocardium. The tumor not only filled the sella turcica, but extended into the frontal lobe where it compressed the brain substance. This discovery shows that operative measures have a chance for success only for small tumors, confined to the base, and not penetrating into the brain substance. Everything about the case indicated a successful outcome, and there was even a possibility, after the extension of the tumor into the brain was discovered, that after partial removal the remainder might shrivel and thus relieve the brain of the compression as the tumor would then have room to spread downward. The operation in reality offered no chance for success and merely did harm, as the mechanical injury of the tumor tissue afforded a predisposition for suppuration which might have entailed postoperative meningitis if the patient had lived longer. There had been no decided symptoms indicating such extension of the tumor.

138. **New Principles for Treatment of Lupus Vulgaris.**—Payr gives an illustrated description of a method of treating lupus which is simple and yet seems to cure in a comparatively short time. In spite of its numerous disadvantages excision of the lupous patch is still the most effectual meth of treating lupus, but he declares that all its essential featur can be obtained by undermining the patch under local ane thesia. Two parallel incisions are made through the sk down to the muscles allowing the entire skin to be separate from the muscles below to form a bridge flap. Iodoform gauze dipped in Peruvian balsam is then drawn through beneath the flap to prevent its growing down again. The lupous patch is thus medicated from above and below, and the lupus soon heals, leaving apparently normal skin except that it is inclined to be more pigmented than normal. The tint has grown constantly more and more like that of normal skin in the course of the six months his patients have been under observation. This undermining treatment has been applied in four cases to date, but only for lupus on the limbs. There is no bleeding, no need for assistance, no danger, and no defect is left, he says. The after-treatment is painless, the gauze not being changed until granulation has occurred over the whole raw surface, which is generally in about a week; the Peruvian balsam facilitates the removal of the gauze and the cure is complete in one or two months. The cosmetic result is excellent and extensive areas can be treated in this way as desired. The conditions in the face are less favorable for the undermining technic, and for this he has been experimenting with magnesium arrows, stuck through into the subcutaneous tissue, such as he uses in treatment of cavernous angioma not adapted for extirpation. The result in the lupus cases was prompt and beneficial. An opening is made with a tenotome and the little stick of magnesium is pushed from directly under the patch or into its depths. This method has been applied in only one case, but with the exception of a few isolated nodules the extensive lupus, almost covering the face, has healed, leaving merely a firm, reddish scar.

139. **A Thirty-seven Year Index.**—This general index includes in a single alphabetical series all the articles that have appeared in the *Zeitschrift* during the thirty-seven years of its existence, the index filling 230 pages in this special centennial number. The issue contains also two pages devoted to small photographs of the forty-three men who publish the journal. Wilms, in the preface, deplores the way in which the various specialties now overlap each other, especially the overlapping of journals, so that summaries of the same article appear in a number of journals, year books and weeklies. The amount of reading necessary to keep up with a science is becoming enormous, he declares, remarking that too much reading interferes with original thinking. He appeals to writers to condense more, to avoid repetition, and instead of writing a number of articles on a single subject, often in different journals, to put it all into one telling article. Much time and energy could be saved if only there were greater economy in printer's ink.

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September 30, XXVII, No. 27, pp. 1009-1040

140 *Pathogenesis and Causal Treatment of Edema. Eschle. Commenced in No. 25.

140. **Treatment of Edema.**—Eschle declares that any one who expects to cure edema by merely drawing off the fluid or restricting the intake of water is like a person who tries to cool off the room by putting the thermometer in cold water. The water is not the cause of the disturbance; it is merely the index of it. The principal factor in the development of edema, he asserts, is the deficient tone in the skin, a weakening of the vitality of the protoplasm in general and especially in the skin and veins. Nothing permanent can be accomplished with diuretics, diaphoretics and purgatives unless the organs involved are still capable of functioning. Diaphoretic measures in particular should certainly not be applied unless

the skin is still moist. In heart disease not one organ but all try to help in maintaining compensation, and this should not be forgotten in treatment of edema. So many demands are made on the organism in daily life that it cannot rally all its forces for this purpose of reestablishing the balance, but if the patient stays in bed, the quiet, warmth and rest leave the organism free to devote all its energies to restoring the compensation balance. Restriction of all non-essential demands on the organism, application of warmth, bed rest, and administration of drugs to act as a tonic on the protoplasm—these are the essential factors in treatment of edema. Both digitalis and morphin he regards as distinguished by their tonic action on the protoplasm, and consequently he considers morphin a valuable aid in supporting the organism in its final struggle to restore the compensation balance, both by its tonic action on the tissues and the recuperation it permits by reducing the non-essential demands on the organism. Digitalis is also useful; by its regulation of tissue tone throughout the entire protoplasm areas, including the heart, it promotes diuresis indirectly. The more favorable the conditions in any region, especially in the kidneys, and the more of a secondary nature the disturbances in other organs, as in case of valvular disease, the more certain the regulating action of the digitalis. Ergot may also be useful when the main factor acting against restoration of compensation is a loss of tone in the arteries themselves, thus in cases in which digitalis fails, as, for example, in the so-called idiopathic dilatation of the heart, in aortic insufficiency and advanced arteriosclerosis. The walls of the arteries in these cases are still capable of responding to stimulation, and ergot will assist them in responding to the excessive demands made on them. If the combination of bed rest, digitalis and morphin fails to cure the edema, there is not much hope of relief from other measures. Palliative evacuation of the fluid may afford a useful temporary relief. The thirst that accompanies dropsy is a sign that, in spite of the accumulations of fluid, the tissues are still starving for water.

Policlinico, Rome

October, XVI, Medical Section, No. 10, pp. 429-476

141 Atypical Forms of Multiple Sclerosis. (Forme atipiche della sclerosi multipla.) P. Alessandrini.
142 A Case Intermediate Between the Erb-Charcot Syndrome and Amyotrophic Lateral Sclerosis. (Un caso intermedio fra la malattia d'Erb-Charcot e la sclerosi laterale amiotrofica.) A. M. Bono.

Riforma Medica, Naples

October 4, XXV, No. 40, pp. 1093-1120

143 Polymicrobian Septicemic Fevers. (Febbri e febbricole setticemiche polimorfe, IX.) G. Rummo.
144 Blood Serum in Acute Experimental Nephritis. (Il siero di sangue nelle nefriti acute sperimentali.) D. De Sandro. Commenced in No. 39.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Progress Report on the Uganda Sleeping Sickness Camps. From December, 1906, to Nov. 30, 1908. By A. D. P. Hodges, M.D., Principal Medical Officer, Uganda. With an Appendix on Breeding-Grounds of Glossina Palpalis. By Lieutenant A. B. Fraser, R.A.M.C., and Claude H. Marshall, M.R.C.S., L.R.C.P., October, 1909. Paper. Pp. 44. London: Sleeping Sickness Bureau, Royal Society, Burlington House, W., 1909.

The Principles o [illegible] George Adami, M.A., M.D., LL.D., F.R.S., [illegible] in McGill University, Montreal, and Albert [illegible] D.Sc., F.R.S., Assistant Professor of Pathology and Lecturer in Clinical Medicine in McGill University. Vol. II. "Systemic Pathology." Cloth. Pp. 1064, with 310 engravings and 15 plates. Price, $6 net. Philadelphia: Lea & Febiger, 1909.

Diseases of Infants and Children. By Henry Dwight Chapin, A.M., M.D., Professor of Diseases of Children, New York Post-Graduate Medical School and Hospital, and Godfrey Roger Pisek, M.D., Professor of Diseases of Children, University of Vermont. Cloth. Pp. 591, with 179 illustrations and 11 colored plates. Price, $4.50 net. New York: William Wood & Co., 1909.

Studies in Rabies. Collected Writings of Nathaniel Garland Keirle, A.M., M.D., D.Sc., Professor of Medical Jurisprudence and Emeritus Professor of Pathology, College of Physicians and Surgeons, Baltimore. [illegible] William H. Welch, and a biographical ske [illegible] Testimonial Edition. Cloth. Pp. 374.

Lehrbuch der Krankheiten des Herzens und der Blutgefässe. Von Dr. Ernst Romberg, O. Professor und Direktor der [illegible] in Tübingen. Second Edition, with 60 illus- [illegible] p. 573. [Price, in cloth binding, 14 marks.] [illegible] Enke, 1909.

Surgical Diagnosis. By Daniel N. Eisendrath, A.B., M.D., Professor of Surgery in the [illegible] the University of Illinois (College of Physi [illegible] Second Edition. Cloth. Pp. 855, with 574 [illegible] olors. Price, $6.50 net. Philadelphia: W. B. [illegible]

Clinical Examination of the Urine and Urinary Diagnosis. By J. Bergen Ogden, M.D., New York, N. Y., Medical Chemist, to the Metropolitan Life Insurance Co., N. Y. Third Edition. Cloth. Pp. 427, with illustrations. Price, $3 net. Philadelphia: W. B. Saunders Co., 1909.

Tufts Medical Diet Charts. (Charts A. and B.) Prepared by H. D. Arnold, M.D., Professor of Clinical Medicine at Tufts Medical College, Boston. Single Charts, 5 cents; 50 Charts, $2; 500 Charts, $18; 1,000 Charts, $30. Philadelphia: W. B. Saunders Co., 1909.

Transactions of the American Dermatological Association at its Thirty-second Annual Meeting, Sept. 24 to 26, 1908. Paper. Pp. 287. Official Report of the Proceedings by Grover W. Wende, M.D., Secretary.

[illegible] urses. By Charlotte A. Aikens, formerly [illegible] Hospital, Pittsburg. Cloth. Pp. 510, $2 net. Philadelphia: W. B. Saunders Co., [illegible]

Otitic Cerebellar Abscess. By Heinrich Neumann, Privat-Docent, University of Vienna. Translated by Richard Lake, F.R.C.S. Cloth. Pp. 156. Price, 4 shillings net. London: H. K. Lewis, 1909.

New Patents

Recent patents of interest to physicians:

932103.	Snare curette. F. B. Black, Gilboa, Ohio.
931749.	Dehydrating nitrocellulose. G. W. Gentieu, Peoria, Ill.
932386.	Automatic syrup delivery for soda fountains. A. R. Gross, Catonsville, Md.
932130.	Making magnesium salts and ammonia. H. B. Hunter, Norfolk, Va.
932284.	System for dispensing beverages. A. D. Jones, Louisville, Ky.
932285.	System for dispensing beverages. A. D. Jones, Louisville, Ky.
932143.	Air pump. A. M. Kjaersgaard, Copenhagen, and C. S. J. Wiese, Odense, Denmark.
931791.	Scarificator. W. Niergarth, Pekin, Ill.
932174.	Sanitary cuspidor. D. R. Reefe, Jacksonville, Fla.
932177.	Orthopedic device. L. Roth, New York.
931803.	Invalid chair. D. Rupley, South Whitley, Ind.
932066.	Surgical stocking or casing. F. W. Smith, Union, Ohio.
932344.	Holder for nursing bottles. C. Starbard, Worcester, Mass.
931817.	Disinfecting apparatus. J. R. Van Dyne, Sedalia, Mo.
932074.	Truss. A. Wakeman, Syracuse, N. Y.
931908.	Invalid's foot rest for beds. M. Weld, New York.
932442.	Bed-pan. M. F. Cagle, Knoxville, Tenn.
932604.	Atomizer. T. A. De Vilbiss, Toledo, Ohio.
932775.	Electric therapeutic instrument. C. W. Gaston, Fresno, Cal.
932780.	Massaging and exercising implement. C. J. Hero, Milwaukee, Wis.
932479.	Support for stretchers. J. Linxweiler, Bad Kissingen, Germany.
932635.	Apparatus for producing formaldehyde. W. B. McLaughlin, New York.
932898.	Producing ozone. J. F. Place, Glen Ridge, N. J.
932647.	Antiseptic composition containing phenyl acetate. N. Sulzberger, New York.
932515.	Respiratory apparatus. J. Tissot, Paris, France.
932527.	Treating vegetable albumen and animal casein and the product therefrom. F. G. Wiechmann, New York.
933360.	Inhaler. E. Carabias, Mexico, Mex.
933423.	Bunion guard. W. H. De Ford, Pittsburg, Pa.
933537.	Holder for absorbent cotton. W. J. Durant, Spencer, Iowa.
933170.	Operating table for osteopathic treatment. W. O. Galbreath, Philadelphia, Pa.
933462.	Apparatus for separating oxygen from air. J. E. Johnson, Jr., Long Dale, Va.
933323.	Invalid bed. F. W. Mitchell. Valparaiso, Ind.
933107.	Manufacturing acetone. A. L. A. Pages and R. P. T. Duchemin, Paris, France.
933578.	Syringe nozzle. J. W. Perkins, Everett, Mass.
933490.	Syringe. C. Remhof, Brooklyn, N. Y.
933398.	Syringe. F. A. Stahl, New York.
934130.	Truss. G. W. Bell, Kansas City, Mo.
934133.	Making milk for infants. P. Bergell, Berlin, Germany.
934037.	Valve-fitting for soda-water apparatus, P. Bunin, New York.
933844.	Stereoscopic appliance. G. A. H. Kellner, Rochester, N. Y.
934190.	Sterilizing apparatus. E. Kronman, New York.
933913.	Surgical bandage. J. Nord and N. T. Hillen, Arnheim, [illegible]
934349.	[illegible] ction by diffusion. K. Philipp, [illegible]
933791.	Physician's hypodermic syringe case. S. Sinkler, Chicago, Ill.
934368.	Machine for cutting and folding sanitary-shield packages. A. Stewart, Pittsburg, Pa.
934240.	Surgical appliance. H. Tunnessen, Hazelton, Pa.
934662.	[illegible] S. Falson, New York.
934916.	[illegible] with traveling mark. C. von Hofe, Jena, Germany.
934917.	Septic tank. A. W. Hubsman, Staunton, Ill.
934625.	Abdominal bandage. A. Petrel, Buenos Ayres, Argentina.
934844.	Disinfectant. H. Schneider, Wilmersdorf, near Berlin, Germany.
934486.	Holder for surgical instruments. T. S. Walling, Passiac,